LABOR-FEDERAL SECURITY APPROPRIATIONS FOR 1952

THURSDAY, MAY 10, 1951

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D. C.

The subcommittee met at 10 a. m., pursuant to call, in room 412, Senate Office Building, Hon. Lister Hill presiding.

Present: Senators Hill and Thye.

FEDERAL SECURITY AGENCY

PUBLIC HEALTH SERVICE

STATEMENT OF GEORGE BUGBEE, EXECUTIVE DIRECTOR, AMERICAN HOSPITAL ASSOCIATION

HILL-BURTON HOSPITAL SURVEY AND CONSTRUCTION ACT

Senator HILL. The committee will come to order, please.

Mr. Bugbee, will you have a seat, sir. We will be happy to have you make any statement you see fit with reference to the needs for funds under Hospital Survey and Construction Act for the construction of hospitals. Just proceed in your own way.

HOSPITAL AND HEALTH CENTER CONSTRUCTION

Mr. BUGBEE. I am George Bugbee, executive director, American Hospital Association. I do appreciate the opportunity to come and talk to you about the appropriation for hospital and health center construction. I could speak at length on the over-all subject of activities under that bill because the interests of the association go back to its original inception. We have continued to watch hospital construction, aided by Federal funds, and to measure it against its service to the community.

I will not go into all of those details, knowing that you have had technical information from the agency administering this act; but I will talk on one or two particular points which we hope the committee can bear in mind in considering the possibility of appropriating $150,000,000 as authorized by Congress.

First and most important for the committee to bear in mind is that this is not an everyday program. In our opinion, this is in itself an emergency program planned with great care to provide a survey of hospital needs. Those needs have been reported to this committee. Further it is a program to provide Federal funds which are matched locally to meet those needs.

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We feel that the accomplishments under the act are doing much to meet the most critical needs, as is provided in the bill. Now, in considering the appropriation it certainly must be borne in mind that the change in the value of the dollar has materially affected the number of hospital beds which can be constructed. Further, and undoubtedly wisely, the Congress changed the bill to provide a somewhat lesser portion of local money to match Federal appropriations, so that that again affects the total number of beds that can be built as against the very substantial need which has been reported to you.

Senator HILL. The fact is that in low-income States it makes quite a difference, does it not?

Mr. BUGBEE. It makes a very substantial difference where the local percentage, again wisely, was reduced very substantially; but with the disadvantage of reducing the number of beds, the advantage being that it permitted construction in some of the areas of greatest need where local money was not easily available. But again my point is that this is not an everyday maintenance program. This is a major effort on the part of the Federal Government to stimulate local interest.

Senator HILL. Excuse me one minute. Senator Thye, this is Mr. Bugbee, director of the American Hospital Association.

Senator THYE. I am sorry to be a little late.

Senator HILL. I am glad to see you, Senator Thye. We are talking about hospitals.

Mr. BUGBEE. I was just mentioning one or two points, Senator Thye, that I wanted to bring before the committee. The first point related to the fact that in our opinion this very important program is not a day-to-day, continuing program of average interest. It is in itself an emergency program, calculated to meet one of the very important health needs of the country. To that degree we think it should be considered in this very difficult emergency on that basis and weighed against other programs that undoubtedly have importance, but not with the idea of considering hospital construction as a maintenance item that will continue over many years.

NEED FOR HOSPITALS IN SMALLER COMMUNITIES

Senator THYE. Once you have the construction of a hospital complete, then you have a unit in a community that is permanent. It is something that is there. And it will certainly serve if you are faced with an emergency where a bomb should strike in some large industrial center and the hospital units within that center would be destroyed along with the utilities or along with all of the city in itself. Then you would have to take people out into the smaller communities. It is for that reason that it is so important to get the hospitals built in those smaller community centers. That is the way it appears to me, and that is why I am in so complete accord and in full support of this program.

Mr. BUGBEE. I would agree with you, and I think, in addition to the implication of hospital beds in the civil defense program, there is the long-term value in health which has even more importance at a time when we are trying to keep the entire working force busily engaged.

Senator THYE. I mention the possibilities if we were attacked with aerial bombardment. I am only giving that as an additional emphasis. But we do need the hospital construction in communities where there are no such facilities. We have many applications from our own State as well as many applications from all the States in the Union that we have not been able to reach up to the present time.

Mr. BUGBEE. I think the point you make is right. It is interesting—and I know it has been reported to you—that most of the construction to date is outside metropolitan centers and certainly will be a great resource not only in normal health activities but should we need those resources in some type of enemy action.

One or two other points that I did want to make and which we have been studying with great care relate to the availability of materials for construction.

RISE IN COST OF CONSTRUCTION

Senator HILL. I wish you would emphasize a little bit, as you did before Senator Thye came in, how the cost of this construction has changed the situation. Dr. Cronin, in testifying for the Public Health Service, you will recall, Senator, said that when Congress reduced the amount from $150,000,000 to $75,000,000 we did not make a 50 percent cut but we made about a 70 percent cut because of the cost of construction going up, you see. The $75,000,000 now will not buy as many beds as it would have a year ago.

Mr. BUGBEE. Without going into exact percentages, I think it would be accurate to say, Senator Hill, that during the life of this act, which is not very long, the change in hospital construction costs has been an increase of at least 100 percent, so that the increase in authorization by Congress from $75,000,000 to $150,000,000, did not do much more than recognize that change in costs.

Incidentally, a matter of great concern in local communities, as I am sure you both know, is that the raising of local money has been complicated by the great increase in the amount that it is necessary to raise.

We testified in Congress and supported some change in the Federal percentage from the original 33⅓ percent of Federal money. We were rather apprehensive at the final result which cut or reduced the local percentage substantially. I don't mean that we thought it was wrong, but we realized that it reduced the number of beds being constructed.

In any event, Congress made the decision, probably a wise decision from the standpoint of facilitating construction in the most needed areas. But it again was an important factor in reducing the total number of beds being built. It was reasonable when related to the appropriation of $150,000,000 but it tends to emphasize the inadequacy of $75,000,000 which has been appropriated.

Senator THYE. We have two specific communities that definitely had all local commitments and all the local assurances of funds. Then when the reduction occurred here in Congress, they were unable to proceed. Those two communities—I am just referring to the two, although we have several others—had advanced far enough so that they were just ready to proceed with the letting of bids. With the reduction in funds, of course, the unit construction stopped right there

and then. That was just an example in our own State, as to which I have had numerous letters and telephone calls. I know both communities as well as I know any community of the States. The project should have gone through without question, and it was too bad we did not get the funds for them. The need is great in both communities.

NUMBER OF APPLICATIONS APPROVED

Mr. BUGBEE. There are somewhere in the neighborhood of 1,500 applications for either new hospitals or additions that have been approved. By the terms of the act, those are by and large in the areas that have not had facilities because they have not had local money.

Senator THYE. That is right.

Mr. BUGBEE. Even with Federal matching, the degree of local activity needed to raise local funds and make this hospital an actuality is not small. I think it is one of the major public service projects for a community. To find that they have been planning on a certain amount of money and that it does not come along and that during that same period of time construction costs have gone up has presented terrible problems.

I have just been around meeting with hospital people, and repeatedly they have said just what you are saying, Senator Thye; and it is very difficult.

We have previously testified before committees of Congress about the need of consistency in the amounts in this program because of the delicacy of planning the local units. But I do want to mention this point of materials because I think it has been considered by Congress.

We have been dealing very carefully with the National Production Authority and with the Defense Production Authority, and the various claimant agencies. They have great consideration for the importance of health and the need for quality health supplies and materials needed in hospital construction. So far there seems to be every indication that such material will be available. I think that as long as the production lines in civilian goods are going at the rate they are we should certainly be able to provide a rather limited amount of critical material needed in hospital construction. I would hope that Congress would not limit the appropriation on that basis. If the present emergency deepens or the situation changes, the agencies concerned with materials can limit the construction as may be necessary. But to anticipate that at the present time seems to us not to properly evaluate the importance of this program.

STAFFING OF HOSPITALS

There is one other point that has been discussed, and that is the question of staffing. Here again there isn't a very easy answer. There is no question of the shortage of health personnel. Take the basic group of graduate nurses, for example. We have never had more graduate nurses at work. It isn't that young women aren't interested in nursing. The over-all demand for nurses' services increases as their training is better and they are able to do more. Of course, construction puts an added demand on it. It has been our feeling that the facilities—and again the testimony presented by this Association and other groups at the time this act was first considered

would support the idea that facilities are a first step. They don't solve all of our problems.

I know Congress is concerned with certain aid for the training of personnel, and we have testified on that. We are inclined to believe that there is need for Federal aid to assist with schools of nursing. My point is that I don't believe the present shortage of personnel should delay so primary a program as trying to provide adequate facilities, and that, while personnel is a problem that must be met and will be in some manner, it should not be a reason for delaying what is this first step in facilities.

I do appreciate this opportunity to say this much about the Hill-Burton Hospital Survey and Construction Act. We are continually pleased with the way it is administered, and the incentive it has been for local communities to pick up their needs in the health field. The corollary results that we think it is having in attracting better medical personnel and other types of personnel to serve these communities are very gratifying. I hope you both are finding that is true in your home States.

Senator HILL. It is certainly making a contribution from the standpoint of attracting medical personnel. Many of these communities were reaching the point where they did not have any doctors or the doctors they had were very old. They were not able to get any young men to come in because the young men did not want to practice where they did not have the facilities. They have those facilities where they have a hospital. Is that not true?

Mr. BUGBEE. That is correct. It is practically impossible to practice medicine without those facilities.

Senator HILL. Are there any questions, Senator Thye?

Senator THYE. No, sir.

Mr. BUGBEE. I would like to present Mr. Richwagen.

Senator HILL. Will you give us your full name, please.

STATEMENT OF LESTER E. RICHWAGEN, DIRECTOR, MARY FLETCHER HOSPITAL, BURLINGTON, VT.

Mr. RICHWAGEN. My name is Lester E. Richwagen. I will be very glad to answer any questions you may like to ask, Senator Hill and Senator Thye. I am a practical hospital administrator in Burlington, Vt.

Senator HILL. You operate a hospital there at Burlington?

Mr. RICHWAGEN. Yes, sir. It is a teaching hospital and, as Mr. Bugbee said, we must have the workshop in order to give the proper education to nurses and doctors and others.

Senator HILL. How large a hospital is your hospital?

Mr. RICHWAGEN. We now have 190 beds and 37 bassinets. We have a building program on now which will increase that by 170 beds.

Senator HILL. How large a city is Burlington?

Mr. RICHWAGEN. 33,000.

Senator HILL. Well, you must pretty well service what we might call the whole area around there with that large a hospital.

Mr. RICHWAGEN. Yes, we do. It is a teaching hospital of the University of Vermont College of Medicine.

Senator HILL. It is tied in with that?

Mr. RICHWAGEN. Yes, sir.

Mr. BUGBEE. Have you had any aid under this act?

Mr. RICHWAGEN. We have been granted aid under the Hill-Burton Act on a split project basis which will mean that we will make our final payment in the fiscal year 1954.

Senator THYE. What is the size of your nurses' student body? How many have you?

Mr. RICHWAGEN. We now have an enrollment of 150 students. We are also affiliated with the University of Vermont School of Nursing which sends about 15 students a year to us.

Senator HILL. How many young interns do you have at that hospital?

Mr. RICHWAGEN. We have 12 interns and 17 resident doctors, 29 in all.

Senator HILL. Your interns are practically all from the University of Vermont Medical School?

Mr. RICHWAGEN. Out of the 12, there are 7 from the Univeristy of Vermont and 6 from other schools of medicine all the way west, I think, to Minnesota.

Senator HILL. In other words, you take in interns from good schools whether they are in Minnesota or somewhere else?

Mr. RICHWAGEN. That is right.

Senator HILL. Are there any other questions, Senator Thye?

Senator THYE. No, I believe not.

Senator HILL. Well, we thank both of you very, very much. We appreciate the contribution you have made.

NATIONAL INSTITUTE OF MENTAL HEALTH

BREAKDOWN OF BUDGET ESTIMATE

Senator HILL. Our next witness is Mr. Charles Schlaifer, of New York.

Before Mr. Schlaifer proceeds, I have here a table entitled "National Institute of Mental Health," showing a breakdown of the current budget, the budget estimate, and the citizens budget proposal. I think, Senator Thye, at this point we might put this table into the record.

(The table referred to is as follows:)

National Institute of Mental Health

Description	1951 current budget	1952 Budget Bureau estimate	1952 citizens budget proposal
GRANTS			
1. Grants to medical schools and other institutions and to individuals for research and training:			
(a) Research projects:			
Liquidation cash	$376.000	$223,000	$223,000
Obligational cash	770,000	1,390,000	2,377,000
(b) Research fellowships	206,000	256,000	300,000
(c) Expansion of teaching of subjects relating to mental illness:			
Liquidation cash	1,999,000	600,000	600,000
Obligational cash	300,000	2,000,000	[1] 2,750,000
(d) Training fellowships	1,050,000	1,400,000	1,400,000
(e) Construction grants for research and training institutes connected with mental hospitals and medical schools	None	None	8,000,000
2. Grants to States for case finding, diagnosis, and other preventive and control services	3,200,000	3,100,000	4,000,000
3. Activities in field of alcoholism, including special project grants	None		[2] 750,000
DIRECT OPERATIONS			
1. Research to be conducted directly by National Institute of Mental Health	640,800	800,000	[3] 1,300,000
2. Other direct operations:			
(a) Review and approval research and training grants	118,400	130,000	149,500
(b) Training activities (demonstrations, and in-service training)	136,200	154,000	218,500
(1) Institutes for general practicing physicians, and allied mental health personnel	35,000	36,000	[4] 350,000
(c) Technical assistance to States (consultative service, review and approval of State budgets, demonstration clinic	379,400	405,000	486,000
(1) Manpower reclamation—to find and remove causes of absenteeism and job-shifting in defense areas	None	None	[5] 250,000
(d) Program direction and administration	294,200	306,000	342,000
Total	9,505,000	10,800,000	24,496,000
Liquidation cash (none for construction of research facilities)	—2,375,000	—823,000	—823,000
Total obligational cash	7,130,000	9,977,000	23,673,000

[1] Including $750,000 for grants to train psychiatric aids in 50 of the largest mental hospitals, at $15,000 each, to make up for manpower shortages due to defense production.
[2] Special project grants in research and treatment of alcoholism, to attack absenteeism.
[3] Improve statistics to measure mental health problem. Expand basic and other research in temporary quarters.
[4] Orientation in diagnosis and management of early mental and emotional ills. Emphasize civilian defense mental health problems of morale and panic.
[5] Community survey and treatment projects in selected defense areas affected by large-scale movement of population.

STATEMENT OF CHARLES SCHLAIFER, NEW YORK, N. Y., COCHAIRMAN, NATIONAL MENTAL HEALTH COMMITTEE; MEMBER, NATIONAL ADVISORY MENTAL HEALTH COUNCIL; FOUNDING MEMBER, NATIONAL ASSOCIATION FOR MENTAL HEALTH

DISCUSSION OF PROPOSED CITIZENS' BUDGET

Senator HILL. You may proceed in your own way, Mr. Schlaifer.

Mr. SCHLAIFER. My name is Charles Schlaifer. I am honored to come before you to present the citizens' program for the National Institute of Mental Health. This budget is put forward by the National Mental Health Committee, composed of both psychiatrists and laymen interested in furthering the mental health of the Nation. I would like to submit for the record a statement of purpose and a list of our members, which include as honorary chairman Hon. Earl Warren, Governor of California; Hon. Luther W. Youngdahl, Governor of Minnesota; Hon. Sidney S. McMath, Governor of Arkansas; Hon. Dan Thornton, Governor of Colorado; Hon. Frank B. Keefe, Wisconsin; and Hon. Charles P. Farnsley, mayor of Louisville.

Senator HILL. Is that former Congressman Keefe of Wisconsin?

Mr. SCHLAIFER. Yes.

Senator HILL. He was a very fine Representative and made many fine contributions to health work.

Mr. SCHLAIFER. Yes, sir.

Senator HILL. I was awfully sorry to see him leave the House.

Mr. SCHLAIFER. So were we. It might be pointed out that some of the research that was developed through the National Institutes of Health was responsible for helping us to save his life when he became ill not so long ago.

Senator HILL. I might recall to Senator Thye's attention the fact that he belonged to Senator Thye's party, too.

Mr. SCHLAIFER. Yes; that is right. I assume, of course, that Senator Thye is a Republican.

Senator THYE. You will admit that we do have some good men.

Senator HILL. Yes. I admit we have one with us here this morning.

Senator THYE. Thank you, sir.

Mr. SCHLAIFER. Congressman Keefe has been very much interested in the whole program of health.

Senator THYE. You have listed there some very worthy names of men who are doing splendid work, including Governor Warren and Governor Youngdahl, in the mental field. Governor Youngdahl has certainly fought vigorously and intelligently for good, sound legislation in Minnesota while he has been Governor.

Mr. SCHLAIFER. There is no question about that. He is one of the leaders in the whole country. As a matter of fact, we have a statement from Governor Youngdahl which we want to introduce later.

It can be seen from our statement of purpose that we seek to develop support for mental health programs in State governments as well as Federal.

I am not a doctor. Like others here, I am a layman, a citizen who has a serious concern for this whole problem.

In a way, it might seem paradoxical and against my own interests to advocate an expansion of governmental activity which might mean

that I would have to devote an even larger share of my personal and business income to taxes. About this time of the year I am especially conscious of how heavy this tax burden is.

BACKGROUND OF WITNESS

Senator HILL. Excuse me one minute. I notice a little biographical sketch of you here. I think it might be interesting to have this in the record.

For many years Mr. Charles Schlaifer was director of advertising and public relations for 20th Century-Fox Film Corp. He was the founder and chairman of the first permanent public relations committee of the motion-picture industry. He was responsible for the promotion of such pictures as The House on 92nd Street, The Iron Curtain, Gentlemen's Agreement, and The Snake Pit. He is an instructor and lecturer on motion pictures, advertising, and public relations.

Mr. SCHLAIFER. At the same time, all of us today are acutely aware of the necessity for mobilizing and rehabilitating all of our Nation's manpower for the fighting front and for defense production. I feel quite strongly, since I, together with other citizens, must make serious sacrifices, that a group such as the mentally ill which we need to rehabilitate for our own security, as well as for humanitarian reasons, should receive the attention it needs.

IMPACT OF KOREAN WAR

Last October Dr. Karl Bowman, a member of the National Mental Health Committee, head of the psychiatry department at the University of California Medical School, and a psychiatric consultant for the Army, made a trip to the Korean front. When he returned he reported that the Korean War is tougher than World War II. Men who went through Normandy, Anzio, and Pacific battles without breaking became psychiatric casualties in the present fighting.

A recent report to the Army, made by another psychiatrist fresh from the Korean battlefields, told of new electroshock equipment which needs testing and development, that can save additional psychiatric casualty victims for return to battle. But this and other treatment aids must be available at the front lines for immediate application. Otherwise, personality breakdowns tend to become crystallized into a chronic form, later to cost the taxpayer huge sums in the veterans' hospitals.

Some have urged that the Federal Government should cut back on the program of grants for health purposes. The idea is to save money. We want to point out that to reduce mental-health research and training now will increase the cost of hospitals later.

AMOUNT EXPENDED FOR MENTALLY ILL

Some have said that the States should take care of research and training for health. We think, too, that the States should do more, and we are working for that. But we know, as do the gentlemen of this subcommittee, that the Federal Government has a stake in preventing mental illness which is greater than that of all the State Governments put together. In 1950 the Federal Government, ex-

clusive of mental-hospital construction, spent over a half billion dollars for the care of the mentally ill, while the States spent 353 million.

So it is clear that the Federal Government would be acting against its own interest if it curtailed mental-health research and training, which is its only insurance against even more colossal costs in the future for veteran pensions and hospital care.

The National Mental Health Committee has, therefore, after quite some study, drawn up a citizens budget for mental health which would put into operation the full potential of research, training of manpower, and development of treatment services, especially those needed in strategic defense areas and for cooperation with the civilian-defense program.

AMOUNT NEEDED

I would like to call your attention to the item on research in the budget. The President's budget allows for $1,613,000 but the citizens budget proposes $2,690,000 or about 1 million dollars more. This item has been geared to the available research manpower.

In peacetime we urged an increase in research to cure and rehabilitate the mentally ill, so they could support themselves, pay taxes instead of being a burden on the other taxpayers, cut down the one-and-a-half-billion-dollar cost of mental illness to the Nation every year.

But now research is a life-and-death matter at the fighting front. New treatments can put men back into battle who would otherwise be permanent casualties. Research can show how to rehabilitate rejectees, some for future military service and some for defense production. Research can show the Armed Forces how to pick men for special duty calling for extra strain, such as commandos.

We feel you will agree with us that research to accomplish these objectives is an important part of our defense effort and should not be hampered for lack of funds.

The item for training of psychiatric and allied personnel is next in the budget.

TRAINING OF PSYCHIATRIC AIDES

The medical draft has so depleted the forces of both teachers and students in medical schools that we do not advocate an increase over the President's budget of $2,600,000.

We request, however, an additional $750,000 for the in-service training of psychiatric aides in the mental hospitals of the country. This is intended to finance a program in 50 mental hospitals, averaging $15,000 each.

State mental-hospital doctors are rapidly being drafted, making it necessary for each remaining doctor to cover more patients. More responsibility for the care of patients will devolve upon nurses, practical nurses, and attendants or psychiatric aides. Mental hospital authorities all over the Nation have recognized the need for training these hospital personnel. Now the military draft and the lure of better-paying jobs in defense industries has made more urgent than ever the need to hold in the hospital staff the best of the psychiatric aides through training and up-grading.

ACUTE SHORTAGE OF PSYCHIATRIC PERSONNEL

There is no more acute shortage anywhere in the country than the shortage of psychiatric personnel for the defense program. The country as a whole needs 20,000 psychiatrists and only about 5,000 are now available. The Armed Forces will need at a very minimum 1,500. Civilian defense units throughout the country will require several hundred more—some of these part time. And mental-health services, particularly in the strategic defense areas, will require hundreds more. All this will place a terrific strain on the sparsely developed network of psychiatric personnel and services which we now have throughout the Nation.

CONSTRUCTION GRANTS, RESEARCH, AND TRAINING FACILITIES

We next call your attention to the item in the citizens budget of 8 million dollars for construction grants, for research and training facilities connected with mental hospitals and medical schools.

For several years we have been urging that funds be provided for construction of additional facilities for research and training activities. Such construction was urgent enough in those days.

But now with this research and training activity becoming root and branch a part of the Nation's fight for survival, it has become absolutely imperative that priorities be granted to research construction, second only to defense. Machinery is set up to weigh the granting of priorities. In the face of shortages of building materials it has become a matter of the utmost importance that Members of Congress see to it that research and training facilities are provided.

A first step is the provision of appropriations for this purpose and the next step is a follow-through to see that the necessary priorities are granted by the proper authorities.

Senator HILL. Excuse me 1 minute. Before you leave that question of $8 million for grants for construction for research and training facilities, do you have any formula for the allocation of these grants, or is that left to the discretion of the Surgeon General?

Mr. SCHLAIFER. I think I would like to have Mr. Adams come up, if he may, to answer that.

Senator HILL. Maybe Mr. Adams is going to testify later?

STATEMENT OF MR. LYNN ADAMS, SECRETARY, NATIONAL MENTAL HEALTH COMMITTEE

Mr. ADAMS. No, Senator. I am just here to answer questions.

Senator HILL. This is Mr. Lynn Adams. Will you give us your official title, Mr. Adams?

Mr. ADAMS. I am secretary of the National Mental Health Committee.

Senator HILL. My question, Mr. Adams, in connection with your request for $8 million for construction grants for research and training facilities connected with mental hospitals and medical schools was whether there was any formula set out in the law or any yardstick provided as a basis for these allocations, these grants, or is that left entirely to the discretion of the Surgeon General or some other Federal official?

Mr. ADAMS. It is supposed to be worked out by the National Advisory Mental Health Council and the Surgeon General. There is nothing in the law, as far as a formula is concerned, on that kind of grants. There is a formula worked out for grants to the States. You see, the mental-health activities have never had any construction money.

Senator HILL. I know that. There was none in the budget for this year and there is none in the budget for the coming fiscal year.

Mr. ADAMS. That is right. In the cancer program they have had construction money, and they have worked out precedents. This would undoubtedly follow those precedents.

Now I do not know, but I think that, when it would go to a medical school, the whole point would be to help a medical school that has no money. It would not be on a matching basis but on a formula-matching basis. I do know that in the case of the heart and the cancer programs, the university works out with the Surgeon General what they will put in and what the Government will put in on an individual case-by-case basis.

AMOUNT FOR CONSTRUCTION, HEART AND CANCER RESEARCH AND TREATMENT

Senator HILL. Do you have any idea how much money is in the present budget for the heart and cancer construction?

Mr. SCHLAIFER. I don't have it for this year.

Senator HILL. I don't want you to go to a lot of trouble to find that.

Mr. ADAMS. The over-all total for cancer is $20,000,000, and for heart it is $14,000,000, including construction.

Senator HILL. Is that for this year?

Mr. ADAMS. Yes; this year, roughly. Not for building only, though.

Senator HILL. I am speaking now of the construction items such as you are requesting now.

Mr. SCHLAIFER. I can give you the 1950 figures.

Senator HILL. What are they?

Mr. SCHLAIFER. In heart it was $4,500,000 and in cancer it was $5,000,000. That was actually granted. That is not what was requested.

Senator HILL. That is for construction?

Mr. SCHLAIFER. Yes; that is right.

Mr. ADAMS. The President's budget this year took out all construction.

Senator HILL. For both heart and cancer?

Mr. ADAMS. That is right.

Senator HILL. The clerk advises me that there was none this year, Mr. Schlaifer.

Mr. SCHLAIFER. Do you mean 1951?

Senator HILL. That is right.

Mr. ADAMS. None was granted.

Senator HILL. That is right.

All right; go ahead, sir.

GRANTS TO STATES FOR EARLY TREATMENT OF MENTAL ILLNESS

Mr. SCHLAIFER. The next item in the budget is the grant to States for early treatment of mental illness and other control services. This item needs special attention. The President's budget cuts these grants. Such a situation would be extremely unwise in the light of conditions brought about by the defense program. The situation we face today is aggravated by the movement of populations, turn-over of industrial personnel, the uncertainty of many payrolls, inadequate school facilities generally throughout the country, swollen populations in defense-impacted areas. Many other stresses and strains connected with the defense program cannot be brought out fully here. Today is a time of turmoil, of anxiety, of turbulent uncertainty, and yet this is a time also when no stone must be left unturned to assure the steady flow of production, community living, and family solidarity.

Therefore, we recommend that these community bulwarks of the mental and emotional vigor of the Nation be increased by raising the amount for community services to $4,000,000 for the year 1952.

ABSENTEEISM IN DEFENSE PRODUCTION DUE TO ALCOHOLISM

The next item on the budget is one of $750,000 for special project grants to attack absenteeism in defense production due to alcoholism. I should like here to present for the record a statement on the advantages of this program by authorities in the field of alcoholism.

Senator HILL. That statement will appear in the record.

(The statement referred to is as follows:)

ALCOHOLISM: RESEARCH, TRAINING, SERVICE, FISCAL YEAR 1951–52

(By SELDON D. BACON, M. D., director, Section of Studies on Alcohol, Yale Yale University, New Haven, Conn.)

To meet the problem of manpower shortage and manpower inefficiency stemming from problem drinking and alcoholism, rapid extension of out-patient-clinic services is indicated. Such clinics are not replicas of existing clinics which could, with additional financing, take on the rehabilitation of alcoholics. These clinics require specialized clinical training of professional personnel, a fair degree of administrative autonomy, and, of great importance, orientation in the larger fie'd of problems of alcohol. Experience has shown that a large proportion of incipient alcoholics and chronic problem drinkers (who form the major problem for industry and business) can arrest their alcoholic development and can markedly improve both their personal and occupational way of life if appropriate clinical facilities become available. About 2,000 000 men presently listed as regular workers are in this category. Under conditions of great manpower demand this number will rise to about 2,500,000.

Granted the clinical resource as a pivotal service, it becomes possible to extend rehabilitation and prevention operations in four directions: (1) to industries which with this resource can develop industrial counseling and educational services; (2) to hospitals and rest homes which can play an important role in perhaps a quarter of the usual run of cases if a specialized service for diagnosis and follow-up therapy is available; (3) to a certain proportion, perhaps only a tenth, perhaps as much as a third, of the jail population which includes a good many men who are potential workers if some guidance and support are available; however, it is unlikely that by itself the usual jail can do much in this field; (4) to the general education of the public, especially to such segments of the public as welfare workers, the police, the therapeutic professions; such education is essential to the change of attitude and understanding requisite for realistic prevention of alcoholism and this education will occur most effectively where treatment, especially successful treatment, is regularly available.

Three conditions need to be met for the achievement of effective clinical service in this field. First, money is needed to obtain the requisite personnel. Second, specialized training is needed. Third, a favorable setting, favorable in understanding and in cooperation, within the area to be serviced will be a major factor in determining the degree of success.

The third condition, which would have been most difficult to meet as recently as 1945, can be satisfied in several areas which are significant from the viewpoint of industrial manpower needs. Not only has introductory educational work proceeded in many of these centers, but specialized clinical facilities, usually on a small scale, have had a year or more of experience in such widely separated places as Portland, Oreg.; Detroit, Mich.; Fort Worth, Tex.; Pittsburgh, Pa.; Richmond, Va.; Buffalo, N. Y.; Boston, Mass; five cities in Connecticut, and several other places in Wisconsin, California, New Hampshire, and Ohio. Practice is not standardized in these various facilities although most of them are modeled to a greater or lesser extent on the Yale plan clinics. Other things being equal, it is probable that extension or elaboration of therapeutic and preventive service would be more effective and a more prudent investment if made in such environments than in areas as yet untouched by the recent spread of newer understanding and techniques.

The need for specialized training of the therapist and for orientation of those responsible for such work cannot be overemphasized. Medicine, psychiatry, social work and therapeutic counseling all have a part to play in the rehabilitation of the alcoholic, but it must be clearly recognized that all have tried to work with the alcoholic during the past 50 years and all, apart from a handful of exceptional individuals, failed. Not only did they fail; they also developed a tradition in the therapeutic professions which was openly antagonistic to the alcoholic and which blocked experience, research, or training. Only in the past 2 or 3 years has this attitude started to change. Ordinary therapeutic practice will fail with alcoholics until the training and experience of therapists is successfully applied in that direction. That the abilities of such therapists can be of great value in alcoholism diagnosis, rehabilitation, and prevention is unquestioned. Such training can be accomplished for these professionals with a brief indoctrination period, less than 4 weeks, if thereafter they are to proceed to a clinical facility where they can work with those already experienced in the field. Although only one training center is presently available for this work, it is clear that two or three others could be developed within a few months.

The general orientation to problems of alcohol is equally important for the success of this project. This is true not only for determination of goals and selection of techniques, it is also true for immediate administrative and therapeutic action. Viewpoints of different segments of the public: relation of alcoholism to other, often similar, problems related to alcohol; understanding of the differences between drinking, drunkenness, and alcoholism; perception of the social, ethical, legal, religious and nationality group aspects of all maladjustments in this area, in addition to specific therapeutic knowledge is essential. Without such understanding, money, time, and good will may be unnecessarily wasted, potential resources and friends will become unnecessarily antagonized and trained specialists will find themselves unable to activate their proven abilities. The experience of public and private groups in attempting to cope with these problems should not be wasted. It should be remembered that the therapeutic professions are not naive in this field because they or their arts are incompetent. It is rather because the larger society has lacked knowledge, has been fearful, and has plunged into bitter controversy or remained in isolated aloofness; this has resulted in a lack of realistic morality and motivation. Until this vacuum is attended to, a technician, no matter what his competence, can accomplish little. In many areas there are people with adequate background for this work. In all areas more are needed.

Money is needed primarily for personnel, secondarily for the training of such personnel. There will be only minor need for administrative expenditures if presently existing structures are utilized.

A minimal outpatient clinic, operating 40 hours a week, will cost approximately $18,000 a year with variations according to regions of the country. It will consist of a half-time psychiatrist or psychiatrically oriented physician, a full-time psychiatric social worker or mental hygienist, a secretary-receptionist, and occasional use of laboratory or diagnostic specialists. Depending upon therapeutic policies it should see from 150 to 250 new patients a year. Such a minimal clinic could serve as a basis for the project here considered. However, to activate the industrial program proposed a second part-time physician and a second person

equivalent to the social worker would be required; a typist would be added, and at least one more office needed. This would add approximately $15,000 to the annual cost. This could mean that the clinic would see from 250 to 400 new clients a year, but a more effective use of this personnel is suggested in line with the earlier suggested functions. With the development of industrial counselling for those with alcohol problems, the clinic could make possible, could give specialized background for, and could augment such programs in several industries, could help with the development or elaboration of hospital and rest home facilities, and, with the addition of perhaps two further persons, could institute diagnostic and rehabilitation procedures in the jail-alcoholic population. The addition of such personnel to an existing clinic is not, therefore, the mere addition to case loads of present facilities. It is the key to the redirection or new utilization of existing resources. This cannot be done by the minimal clinic since the larger part of their time is inevitably given to direct, immediate service.

Where there is an existing clinical facility with appropriate standards, it will be possible to extend services toward the solution of the problem-drinking or alcoholism-affected part of the manpower problem, a part consisting of more than 2,000,000 men, within a few months. In terms of money this will mean a basic cost of about $15,000 for a minimal clinic facility. If special projects with jails or hospitals are involved, additional amounts will be required. It is suggested that these more special projects be undertaken in a limited number of instances. In some situations an existing clinic might well initiate two subclinics with specific industries or industrial locations in mind. To suggest examples, the New Hampshire Commission on Alcoholism or the Western Pennsylvania Committee on Alcoholism might follow such a procedure. On the other hand, the Fort Worth or Detroit clinics might prefer to utilize a mobile clinic unit operating from the existing center. The Yale Plan Clinic in New Haven or the Connecticut Commission Clinic in Bridgeport might be well situated to direct augmented resources toward recapturing employable men from the jail population; Los Angeles already has a minimal plan of this nature, a plan which if realized could readily be made into a resource to meet specific manpower needs by the addition of two or three adequately trained men, granted that the purpose and organization of the proposed facility were integrated toward this function, a proviso that would almost certainly be met.

If 10 existing clinics were to be given such additional aid, the amount needed would be about $150,000. If two jail projects were added, this would cost about $40,000. If two projects developed, rest home or hospital facilities, this would cost about the same. Perhaps five of the existing State commissions could initiate new clinics in centers as yet without facilities, centers of importance for reasons of manpower shortage, centers which could be partly staffed by existing experienced personnel from the State commissions' present clinics. Six such clinics might cost $175,000. These suggestions total just over $400,000.

Training for approximately 40 persons might amount to $300 per person, plus travel expense to the training center, a total of perhaps $15,000. It should be realized that these individuals would be on salary during their training. It is strongly hoped that training of industrial personnel in this field will be developed independently. If 200 persons were to receive 10- to 12-day training developed for intraindustrial work and this were to be underwritten by the Government an additional $40,000 would be required; this figure is not included in the total estimates here presented.

Granted that such service and training were to cost $450,000, it would be advisable to allow perhaps 5 to 10 percent for additional administrative costs falling upon the existing State or local organizations. It should be noted that no very great expansion is suggested for any single existing group. This limitation was not suggested for economic reasons, although this is a fortunate byproduct. It was suggested with the belief that large-scale sudden expansion in this field is per se undesirable and it is also prone to turn into large-scale therapeutic practice which has almost invariably proven ineffective.

It is certainly indicated that a unit within the United States Public Health Service be established specifically to deal with alcoholism as a health problem. If the proper charge for this unit were $40,000, the suggested total would be in the neighborhood of $515,000. Although the matters of industrial alcoholism research, general alcoholism research, and alcoholism education have not been considered, an indication of what might be expected from this program, particularly in relation to the manpower problem, may be presented.

There is no known or generally agreed upon yardstick for the measurement of "success" in alcoholism therapy. There is universal agreement that thousands

of alcoholics have been "helped" by various therapies in the past 5 to 10 years. To reach a practical conclusion on what may be expected from a program, two conceptions must be kept in mind: one refers to the degree of sickness or maladjustment of the alcoholics; the other refers to the kinds, degrees, and durations of the therapeutic results desired.

There are alcoholics with psychosis. There are alcoholics who are homeless men with few occupational, intellectual, or social assets. There are feeble-minded alcoholics. Taken together these three categories probably make up less than 30 percent of the total population involved although they are a dramatic segment and probably dominate the picture which comes to mind when the word "alcoholic" is uttered. There are alcoholics who are sufficiently upset socially and emotionally so that the word "neurotic" is often applied; they are not psychotic or feeble-minded, nor are they chronic residents of jails, missions, and flophouses; perhaps the leading character of the Lost Week End was a fair example of this group. The largest category of alcoholics, however, is neither as severely damaged nor as obvious as these. They are men who still have jobs, still have a connection, often not too stable, with their families, and who have been fairly successful in concealing their chronic drinking problems. They have been called the hidden alcoholics, incipient alcoholics, chronic problem drinkers, and other names. It should be clear from this recital that "success" in alcoholism therapy is going to have very different connotations according to what segment of the alcoholic population the speaker or writer has in mind. It should be added that alcoholism is a progressive condition, the usual period of development being from 8 to 12 years. Alcoholics invariably have drinking problems and emotional problems, almost always they manifest social problems, and many of them have identifiable physiological problems.

What is meant by "rehabilitation"? The purist may require (1) a complete cessation of drinking for a minimum of 5 years, (2) the development of emotional balance and maturity from a psychiatric viewpoint, (3) reestablishment of social adjustment to a level equivalent to 2 years of the patient's prealcoholic career or a normal expectance from that period, and (4) adequate physical health. A completely opposite requirement might be a reduction by more than 50 percent of days spent in jail or hospital because of drunkenness over a 2-year period.

With the understanding that "success" in rehabilitation can only be defined (1) in terms of specified types of alcoholics, and (2) in terms which define the meaning of "success," the following broad statement will be presented. In relation to alcoholism in business and industry the great majority of cases will be incipient alcoholics. Frankly neurotic cases will be present but in smaller proportion than in the over-all alcoholic population. Only as the manpower shortage becomes acute will the more obvious alcoholics become a significant industrial problem. Projected "success," therefore, is to be considered primarily in terms of dealing with incipient alcoholics. In many respects they present the most favorable prognosis for recovery.

Recovery itself, for purposes of meeting the current manpower emergency, will be considered to mean (1) cessation of drinking or such a marked decrease in drinking that it does not lead to alcoholic "episodes"; (2) absenteeism, working with hang-over, accidents related to drinking, mistakes related to drinking, wastage related to drinking are reduced by at least 75 percent; (3) the emotional and social relationships are in some way improved from the therapist's viewpoint; and (4) these changes should be maintained for at least 2 years.

The clinic should have this sort of success with at least 50 percent of the "incipient" category. The equivalent of 17 minimal clinics was suggested in the proposals made above. They should see perhaps 3,000 cases a year of whom 2,000 would be in the incipient category. If 100 industries were to develop cooperative in-service programs along with 20 of these projected and existing clinics (services involving 1 or 2 men of the plant's staff, the plants having a minimum of perhaps 5,000 men) from 10,000 to 20,000 more individuals would be reached during a year. Again, a 50 percent "success" of the nature described is suggested.

Granted that such programs could be in operation 4 to 6 months after the project was started, rehabilitation can be suggested for perhaps 8,500 men in the first year of operation. The second year of operation should show, in addition to perhaps 11,000 new "successes" on the same basis, a marked increase in intra-industrial services, both quantitatively and qualitatively, a marked increase in services of hospitals, social agencies, Alcoholics Anonymous, private physicians, and the like. Nor is it to be forgotten that during that second year the 8,500 of the first year are still rehabilitated. Perhaps, 25,000 men would be "successes" for this second year.

These success figures are well below the experience of one large manufacturing concern which has had 18 months' experience with such a program. They are well below the experience of the Connecticut commission clinics. These figures are far less than the general claims made for Alcoholics Anonymous. The conditioned-reflex treatment of LeMere and Voegtlin suggests over 40 percent success over a 4-year period with higher criteria of success and with a population of alcoholics including far more than incipient alcoholics. The projected figure of 25,000 is a conservative estimate.

This estimate concerns only a part of the picture. More important than such "success" cases are the preventive effects on those in the early phases of alcoholism. Again, effects of such a program on medical and therapeutic practice in general can hardly be measured, but are certain and are impressive. Perhaps most important of all is the general public-health and public-education effect in an area characterized by fear, anger, ignorance, and by behavior on a large scale which all too often can only be considered as immature, dangerous, and very costly in life, money, and morality. Much of this disorganization and waste is unnecessary. However, considering only the 25,000 cases of expected recovery during the second year, it is suggested that this alone is surely worth the cost of $100 per alcoholic individual. It is suggested even more strongly that it is worth the $30 per individual which is being proposed.

The question might be raised, why not ask for $7,500,000 per year and recover 250,000 men during that second year. If there were any possibility that this could be done, it would certainly be suggested. However, it is not felt that education, professional training, appropriate personnel, and administrative machinery are in a position to attack the problem on such a scale. Furthermore, although great strides have been made in the past 10 years along all these lines, it is also clear that there is yet much to be learned.

Of far greater value than an overextension of present knowledge for immediate purposes is the development of greater knowledge, scientific and applied, for long-range purposes. It is suggested that at least $200,000 be set aside for (*a*) research and (*b*) general educational activities. A part of this research would certainly be a concurrent evaluation of the projected service program. A detailed study of the incidence of problem drinkers in two or three industrial plants, of (2) the policy, formal or unrecognized, of the plant in matters of severance, retirement, discipline, and the like, of (3) the practice and attitudes of foremen, stewards, personnel men in dealing with such problems would be of great value. A before-and-after study of a plant introducing educational and therapeutic services would be of value not only to industry but to educational and other groups dealing with large numbers of men. Research on the etiology of alcoholism and on the effectiveness of different therapies is needed, and the results can be tested and applied on the clinical level.

It should be fully realized that, although this project is being described in relation to immediate problems and to undoubted immediate benefits, service, research, and education in this field will have wider and more profound effects than that of easing a manpower shortage. The problems of alcohol, seen so dramatically in alcoholism, appear in many areas of American life. They are serious problems, affecting people profoundly and for long periods of time. Realistic means of coping with these problems are now emerging. Their utilization and improvement promises a more satisfactory, a more mature, and a stronger community as well as immediate economies and greater resources in an emergency situation.

AMOUNT FOR MENTAL HEALTH RESEARCH

Mr. SCHLAIFER. I would like now to discuss the "Direct operations" section of the budget, and the first item is "Research to be conducted by the National Institute of Mental Health." The citizens' budget proposes an increase of $500,000 above the President's budget for this item, to make a total of $1,300,000.

Many new research problems have been given to the National Institute of Mental Health by various defense agencies, some of them since the President's budget was prepared. We all know of the alarming numbers rejected by the draft and discharged from the military because of mental illness in one form or another. It is necessary

for the National Institute to work out methods throughout the country for following up rejectees and discharges from the military and rehabilitating them either for later service in the military or for defense production.

It is necessary to study the action of ACTH, cortisone, and certain other hormones, especially the steroids, under conditions of stress, so that tests may be developed and used by the Army for checking commandos and other shock troops. Steroids, will be used also to study low-level stress in areas which may be bombed.

We must enlarge drastically the basic research done in physiology, chemistry, and other fields. Although the new buildings for the National Institutes of Health will not be ready until the end of next year, research should be started now in temporary quarters.

PROPOSED LANGUAGE CHANGE IN APPROPRIATION BILL

I would like to add here, if I may, a remark in reference to the Jensen amendment. We wish to recommend the following change in the language of the appropriation bill H. R. 3709.

On page 39, lines 4 and 5, to strike out the words "nurses, doctors, or other medical personnel, including orderlies, in".

This will make exception to the personnel in the Public Health Service as far as the Jensen amendment is concerned. We are particularly interested in this matter because, if this change is not made, the National Institute of Mental Health will be unable to set up the new Research Institute at Bethesda during the coming year because of the fact that all staff positions will be new positions and will therefore come under the Jensen amendment.

We feel free to suggest this change because it was obvious that the framers of the amendment did not desire to cripple medical research or training or any other activities of the Public Health Service.

We make this suggestion if the Jensen amendment is sustained by the Senate.

In order to make much of these projects effective, it is necessary to gather much needed data on mental-health clinics and other facilities, particularly in the strategic defense areas. Statistical studies are needed on the results of treatment and care of patients in the hospitals, follow-up studies of both first admissions and readmissions, so that rehabilitation of discharged patients for industrial production may be made more effective. Standard record-keeping procedure for the mental hospitals needs to be developed. There has always been a lack of up-to-date facts as to cost and extent of mental illness, and also as to the characteristics of various mental illnesses in the mental hospitals.

More reports and publications are needed for additional contacts with mental hospitals, clinics, and other treatment facilities.

We ask your attention to a special item under "Training activities." It provides for training institutes for training general practicing physicians throughout the country in the handling of minor mental ills, and in the mental-health aspects of civilian defense. It is estimated that $350,000 will be needed to finance 50 such institutes for 20 physicians and other personnel, at a cost of $7,000 for each institute.

This is an example of an item which is not to be carried under the budget of the Civilian Defense Administration but is a necessary pro-

vision in the mental health budget so that localities will be able to cooperate properly with the civilian defense program.

This item was not developed in time to be included in the President's budget.

MANPOWER RECLAMATION

The last item to which we want to call special attention is listed under "Technical assistance to States" and is entitled "Manpower reclamation." This is for special projects in strategic defense areas to find and remove causes of absenteeism and job shifting in defense areas. The money will be used both for community surveys and for special-treatment projects and teams in areas where special problems are created by large-scale movements of population due to defense activities. The uproar and furore caused in some areas by doubling and sometimes tripling populations in defense communities ill-prepared to handle such an influx is already beginning to be felt in numerous communities throughout the Nation. It is extremely important for us to have the money and facilities to handle quickly such community problems before they reach proportions damaging the productivity of the area.

With your permission, may I say that when my statement was presented last year I wasn't here in person to give it. The end of my statement today is repetitive, but I am repeating it because of the fact that the same problems exist, only more so than last year.

Senator HILL. Don't worry about repetition. Sometimes it takes more repetition and damnable repetition to get things done.

Hasn't that been your experience?

Mr. SCHLAIFER. Yes; certainly it has. We were talking about that just a while ago.

The scope of this problem, however you hear it, is stark, forbidding, potentially destructive. The $24,000,000 being asked to combat this specter—last year it was $26,000,000—or rather to help combat this specter—is a minimum figure during peacetime. It is certainly abysmally low during wartime. It is a small initial cost to hold the promise of such a rich return. In the priorities of America's problems today, mental disease must be regarded among the top.

On the one hand, $24,000,000 seems like a small amount, but having been born and raised in the State of Nebraska in the tradition of pay as you go, in the tradition of no State income tax, no State sales tax, I am perhaps more acutely conscious than others of how much $24,000,000 is and of the rising cost of Government expense and, therefore, increased taxation. Our tradition was concerned with the welfare of everyone in the State rather than the welfare state.

If I had the honor of sitting with you, I would be concerned not only with the humanitarian aspects of protecting and improving the mental health of the people of our country but also with the pragmatic view of "How much does it cost and what do we get for what it costs?"

TOLL OF MENTAL ILLNESS

With these facts in mind and with a realization of the terrible toll that mental illness takes upon the well-being of the citizenry of our country and the terrible toll it takes in millions and millions of dollars for their care, I have come to the following conclusion: Aside from

any humanitarian aspects, but in the matter of cold business analysis, an expenditure of $24,000,000 could well be the instrument of freeing not only the countless millions of dollars that are being expended for the care of the mentally ill but the freeing of these millions of people so that they could contribute to the economy of the Nation and help build our free-enterprise system.

I believe we would all agree that if we could find ways and means of finding cures for cancer, heart disease, and infantile paralysis we would be contributing to the economy and security of our Nation. Now here is a disease, mental illness, that affects more people than all of these other diseases combined.

Again I would like to say that your position is not an enviable one. It is difficult to make a decision to approve these large additional expenditures without being able to see and prove immediate results. I realize that this requires vision and broad-gage statesmanship.

I have confidence in the good judgment of you gentlemen and in the Congress of the United States.

Thank you.

Senator HILL. Are there any questions, Senator Thye?

Senator THYE. I have none. It is a good statement.

Senator HILL. It is a splendid statement, and we certainly appreciate it.

BUDGET RECOMMENDATION

Now, we have a very practical problem here. That is, the budget has recommended, in rough figures, some $10,000,000.

Mr. SCHLAIFER. That is right.

Senator HILL. That is for mental hygiene, and you have made out a strong case for more than twice that much.

Mr. SCHLAIFER. That is right.

Senator HILL. $24,000,000.

Mr. SCHLAIFER. Of which $8,000,000 is grants-in-aid for construction.

Senator HILL. $8,000,000 is grants-in-aid in construction?

Mr. SCHLAIFER. That is right.

Senator HILL. Well, you have made a splendid case. Having seen some of these pictures that you have produced, I appreciate the authority with which you speak on this subject.

Did you happen to see the movie The Snake Pit?

Senator THYE. Yes; I did.

Senator HILL. We are very much obliged to you for your splendid statement.

Mr. SCHLAIFER. Thank you, Mr. Chairman. I shall insert in the record the references to information on which I based my statement. Our next witness is Miss Isabel Leighton of New York City.

(The references referred to are as follows:)

REFERENCES

Loss of production due to sickness and disability is estimated by the National Health Assembly as 27 billion dollars annually (The Nation's Health, A Report to the President, Washington, D. C., September 1948). Roughly, 65 percent, or 17.5 billion, is computed due to mental illness. (See A Note on the Scope of Mental Illness, Mr. Lynn Adams, National Mental Health Committee, December 1950.)

Based on estimates of loss of earnings of State mental-hospital first admissions and former patients, for 1944, similar loss of earnings for 1950 would amount to

well over one billion dollars. (See computation by Dallas Pratt, M. D., National Mental Health Foundation, January 1947. Quoted by William C. Menninger, M. D., in Facts and Statistics of Significance for Psychiatry, Bulletin of the Menninger Clinic, vol. 12, No. 1, January 1948, p. 8.)

Lost taxes estimated conservatively as 10 percent of earnings loss for mental patients, or 100 million dollars.

Cost of mental-hospital care for 1950 reached 736 million in 1950. (See Computation, Cost of Hospital Care of the Mentally Ill, by Mr. Lynn Adams, National Mental Health Committee, February 1951.)

Federal Government spends 350 millions yearly on pensions to neuropsychiatric veteran cases (unpublished letter from Veterans' Administration, dated February 1951). Operating costs, veterans' neuropsychiatric hospitals, 1950, amounted to 125 millions. Other Federal agencies spent 28 millions in hospital care for the mentally ill. Total Federal expenditures for other mentally ill, aside from hospital construction, 1950, amounted to 503 millions. State governments spent 353 millions in the same year to operate the State mental hospitals. (See Cost of Hospital Care of the Mentally Ill, work cited.)

STATEMENTS OF VARIOUS STATE GOVERNORS

Senator THYE. Mr. Chairman, while Miss Leighton is being seated, I note that in this folder there are the statements of various governors and other people concerned with this problem. They will all be made a part of the record, will they not?

Senator HILL. Yes. I understood you wanted that done.

Mr. ADAMS. Yes. That has been arranged.

Mr. SCHLAIFER. There will be time to read only two of those statements, one by the Governor of Minnesota and one by Governor McMath of Arkansas, which happens to be a very comprehensive statement covering the States' areas of responsibilities which I think is germane to the questions that may come up.

Senator THYE. I noted these Governors' statements in here and those of the other people, and I thought the statements are so splendid that they ought to appear in the record.

Senator HILL. They will be placed in the record.

Mr. ADAMS. We are asking that one of our members, Mr. Gorman, be permitted to read Governor Youngdahl's statement and Governor McMath's statement, if that will be all right with you.

Senator HILL. All right. Suppose we proceed now. We will withhold putting those statements into the record until we reach them, if that is agreeable to Senator Thye.

Senator THYE. That is certainly agreeable with me.

Senator HILL. Miss Leighton, we will be pleased to hear from you.

STATEMENT OF MISS ISABEL LEIGHTON, NEW YORK, N. Y., MEMBER, NATIONAL MENTAL HEALTH COMMITTEE

BACKGROUND OF WITNESS

Miss LEIGHTON. My name is Isabel Leighton.

Senator HILL. You have quite an interesting biographical sketch here which I will read. You are a member of the National Mental Health Committee, of the executive committee of the board, National Association for Mental Health, of the board of directors, World Federation for Mental Health, and of the board of trustees, Town Hall, New York, N. Y. You are a radio commentator, author, and foreign correspondent. You are editor of the best seller The Aspirin Age. You served as Navy correspondent during the war and in the

C. B. I. theater as Air Corps correspondent. You are author of the Broadway hit Spring Again.

Well, if you bring us some spring here this morning, that is all right.

Miss LEIGHTON. Well, I think your weather prophet has done that.

Senator HILL. I meant the spiritual spring as well as weather.

GENERAL STATEMENT

Miss LEIGHTON. Senator, the various witnesses appearing before you today will line up an impressive array of facts and figures, showing beyond reasonable doubt the desperate need for more mental health personnel, for wider research and for expanded community facilities with which to stem the frightful toll being exacted by mental illness in every area of our great mobilization effort—the military front, the civilian defense front, and the home production front.

I am not qualified to go into the statistical ramifications of this appalling question, being totally untutored in these areas, but I have come to Washington today to talk to you about the things I have seen and the things I do know—the tremendous instabilities and insecurities that are rocking our youth in so many arenas of life and the unhealthy impact on our family life resulting from the tensions of these trying days, and from the neglect in the past of our responsibilities, and our failure to expand manpower and facilities to keep pace with the ever-growing numbers of our people in need of mental health care.

We are all of us aware of the great pressure on Congress and the rest of Government to reduce nonmilitary expenditures. It is frequently said that the State should take care of these problems. Many other arguments are advanced but whatever the line to which one hews on the subject, it cannot be denied that the items for hospitalization for mental illness in our budget are being increased by millions of dollars for the very reason that research and training of manpower are being cut by the thousands. So, in the name of economy—a short-sighted false economy—we have traded a few thousand dollars in savings but have thereby saddled ourselves with millions of dollars of increased expenditure, particularly in the Veterans' Administration, which has risen to haunt us.

I am not going to belabor the economic cost of mental illness to the Nation. The main purpose of my appearance before you today is to talk to you about the cost in human misery. A complete survey of the effect of mental illness on our national life would be beyond the scope of the testimony we propose to put before you today. I would like, however, to briefly list the most obvious mental health problems and indicate the extent to which they reach in every city, town, and hamlet insofar as they affect so terribly many of our country's families.

JUVENILE DELINQUENCY

Every year one quarter of a million children are brought before the juvenile courts of this country as delinquents. At least three times that number get into some sort of trouble that brings them to the attention of the police or school authorities but does not cause them to be referred to the courts for action. Many thousands of others who are

mentally capable of advanced school work and whose parents are able and willing to keep them in school drop out because they are unhappy, confused and restless, with a restlessness they do not understand. These maladjusted children become maladjusted adults. They represent a tragic loss of human material. As criminals and incompetents which they frequently become, they cost their communities enormous sums in dollars and cents. I am sure that I do not need to tell you that this country in this critical period cannot afford to either encourage or maintain one more emotional misfit than needs to exist. It most instances had sensible and knowledgeable steps been taken in time, something could have been done for them, those who showed actual behavior problems and those who were merely out of step with the world, had their problems been brought to the attention of trained people at the time when constructive help still had a chance to function—before undesirable attitudes had become habitual.

TEEN-AGE DRUG ADDICTION

The 1950 report of the Federal Bureau of Prisons spells out an alarming increase of addiction to drugs among teen-agers. This kind of thing is not visited upon a community by accident. These symptoms do not suddenly make their appearance out of the blue. All competent authorities coping with the problem agree that the lack of treatment and follow-up facilities to cope with this situation is one of the most discouraging and frustrating parts of any effort to root out this insidious disease—for a disease it is and make no mistake about that.

Not many weeks ago when I lunched with Henrietta Additon, who is the superintendent of West Hills Farms, more generally known as the Bedford Reformatory in the part of the country in which I live, she told me (and I don't think she will mind my quoting her) that in the last months the jump in narcotic addictions that had come to her from court referral among the girls who are sent to Bedford had increased to such proportions that it was swamping. "This," she told me, "is not a problem of physical medicine. This is a psychiatric problem and, oh, how we need the psychiatric care that will get these girls out of the woods and on the road to a decent life again."

I would like to interrupt my statement there for a moment to say that primarily I am a newspaperwoman and a reporter, and that in my experience in that avenue of endeavor I have done a great deal of work with the courts in New York. I have written a series of articles on probation, parole, and various social problems, and I have come in contact with most of the judges, parole officers, and probation officers who operate in my own community. The need for help that they are pleading for and cannot get on this level is heartbreaking. As I see it, we have got to find a way to get to them if the youth of our country is going to be fit and sound and able to pursue this war effort.

FACTORS INCIDENT TO DRUG ADDICTION

Senator THYE. Miss Leighton, do you mind a question there? What would you believe to be the factors involved here that have brought about the fact that so many of the youth have become drug users? I am definitely and most sincerely concerned because you

cannot be a State official or have responsibility of a State as governor and see your reformatories and see your penal institutions, such as the State prisons, and then go through those records every quarter and read the case history of the youth, from the home environment on up to the juvenile problems until they find themselves either in the reformatory or in a State prison, without having all of these factors that are involved strike you forcibly. Here we see where a lot of youth have fallen into pitfalls that the adults or the citizenry had permitted to develop which has just spoiled or marred a youth's life. It is for that reason that I ask the question of you who have had this wide field of experience in newspaper reporting and in the study of all this. What would be your personal opinion?

Miss LEIGHTON. Well, Senator, I would rather, truthfully, have that question answered for the record by a psychiatrist who, after all, is equipped to give you a knowledgeable and factual reason. I, as a lay person, whose entire knowledge is based on observation and not on study, would feel that all of these things grow out of the tremendous insecurities of our time, that they are avenues of escape. They are horrible avenues of escape. Either one of our psychiatrists here can give you a much more profound and accurate reaction to the question you are asking. I wish you would ask that question when either Dr. English or Dr. Powdermaker take the stand.

PREVALANCE OF MARIJUANA

Senator THYE. Marijuana is a drug in itself, and the marijuana weed will grow in fence lines just like a bush or normal grass. You can see it all over the countryside.

Miss LEIGHTON. But the boy or girl who smokes that marijuana weed does it because reality has become unpleasant for him and he is escaping into a kind of fantasy that he thinks he is going to like very much better. The results are, of course, horrible, but I would imagine that would be the reason.

Senator THYE. I lived for a good many years before I knew the marijuana weed was a marijuana weed—I called it ragweed—and that it contained a drug. I had fought it as a young man because I was made to cut it, and it competed with my fishing or competed with some other pleasure. Yet I never knew until not so many years ago that it was a drug.

I am wondering now whether we have placed a temptation before the youth by the publicity to the fact that here is a drug as to which all they have to do is take the dry weed and crumble it and put it into a cigarette or pipe and you have a drug there. I am just wondering how we can combat that.

Miss LEIGHTON. There are both advantages and disadvantages to a free press. One hopes that a free press is far more important than one that is shackled.

Senator THYE. I am not criticizing the free press. I am wondering how we can combat it. I mean combat the weed, not the free press. I don't want to be misunderstood.

Miss LEIGHTON. I am afraid we in this country have a tremendous appetite for reading and hearing about the sordid and so we encourage the press to report it. Mind you, I think it is horrible that we do;

but I think our papers are filled with the accounts of these things which I grant you I think may in some instances be an incentive to youth to try this or that which they may not even have thought of. But I think we are sort of asking for it because we are so obviously interested in it. I think that is why we have the kind of pictures that you have on the front page of tabloids because obviously the people buy those papers.

Senator HILL. Are you suggesting that papers are like politicians and they strive to please?

Miss LEIGHTON. Mr. Senator, this is all going into the record, and you are doing terrible things to me.

Senator THYE. No, Miss Leighton. If you were not so well qualified, these questions would not be propounded to you. My question was all for the purpose of trying to produce something.

Miss LEIGHTON. May I suggest that Dr. Powdermaker, who is here, has had enormous experience with adolescents. She has devoted a number of years to delinquency questions. If you will refer that question to her when she sits in this chair, I think she can give you the most enlightened information. I am just hazarding guesses out of my own experience which is comparatively limited.

Senator THYE. I would say it is quite broad.

Senator HILL. But you have definitely seen the results?

Miss LEIGHTON. Oh, yes. The results are rampant.

Senator HILL. Of course, it is the experts, so to speak, who can analyze the causes.

Miss LEIGHTON. Exactly.

Senator HILL. Out of which these results come?

Miss LEIGHTON. Yes.

The editorial in the New York Times of May 21, 1949, stated that the road to rehabilitation of the juvenile delinquent lies in understanding what causes an offender to stray and then utilizing the best scientific tools and psychiatric methods in treatment.

Now, that is the point that you made, Senator.

I don't think I actually need to insert that excerpt into this record. I think no one here denies the truth of that assertion. But, unfortunately, there are two immediate obstacles that hamstring our successfully combatting the situations we all know must eventually be met if we are to have a successful economy and healthy people to make it operate.

LACK OF FUNDS AND TRAINED PERSONNEL

First, the lack of funds to set up clinics and other facilities.

Second, the lack of trained personnel to make it possible for them to do a job. The program we are advocating here today would go a long, long way toward removing these bottlenecks.

Crime in its various guises is estimated to cost the Nation about $10 billion a year. This is a staggering cost but how much more staggering the human toll when over a million individuals both juvenile and adult are not only stricken by this blight but wander about desolate and baffled, not knowing where to turn for help, hopefully looking for an oasis in this desert we have permitted to exist where trained personnel and centers equipped to readjust unhinged emotions are the exception rather than the rule.

PERCENTAGE OF POPULATION MENTALLY DEFICIENT

The mentally deficient make up another important group of the mentally handicapped in this country. It is estimated that 3 percent of the population are mentally deficient, taking the usual upper limit of 75 percent of normal intelligence as the dividing line. Parents the country over are struggling heroically and for the most part ineffectually with the painful problem of rearing retarded children in the same family situation with normal children. They too face the misery of having few trained people to whom to turn and inadequate training facilities for their children when it is necessary to institutionalize them. A whole federation of parent groups devoted to the development of research, training, and facilities for this army of children is springing up and begging for help from the National Institute of Mental Health.

Although divorce rates have been slowly receding after a sharp increase during the war, marriage-counseling centers swamped with people needing advice are having to turn them away in ever-increasing numbers.

ALCOHOL ADDICTION

In his presidential address to the American Psychiatric Association in 1946, Dr. Karl Bowman stated that the cost in disease, crime, and property damage directly due to alcoholism equals $750 million annually. This did not include loss of earnings or loss of production due to alcoholism. Neither did it mention the mental anguish and suffering not only of the alcoholics themselves but of the damage visited on their families as a result of the addiction.

In 1948 there were 2,000,000 industrial accidents. The National Safety Council found in a study of a thousand accidents that 22 percent resulted solely from personality causes and that 60 percent resulted from a combination of mechanical and personality causes. Indeed, how very economical it would be to forestall these many tragedies of highway, factory, and home by adequate treatment for the personality aberrations which are responsible for this significant percentage of accidents.

SUICIDES IN UNITED STATES

In 1947 there were 16,000 suicides in the United States. In that same year the rate per 100,000 was 11.5. The suicide rate of the white, male policyholders of the Metropolitan Life Insurance Co. increased from 7.9 per 100,000 in 1945 to 12 per 100,000 in 1946. Where, then, does true economy lie—in spending a comparatively small amount of money to stem this relentless tide or to keep our spending policy down to a minimum and watch the barometer of tragedy go up?

INCREASE IN POPULATION OF MENTAL HOSPITALS

This brief summary of some of the human costs of mental illness has, of course, not even included the major and the most costly item in the handling of our mentally ill—the most obvious to all—the population of our mental hospitals. Alarming as is the mounting dollar cost of hospitalization, the rise in the number of patients in the hospitals, an increase averaging 10,000 per year for the last 5 years,

gives us even more concern. The piling up of admissions over discharges continues each year. Since we appeared before you here last year, about 150,000 new patients and the members of their families—nearly 1,000,000 people—have felt the impact of mental illness. We have no way of meeting this problem except through research to find new cures and through the training of personnel to apply the knowledge we already have. In spite of recent advices, our efforts have been only a drop in the bucket. The answer is to be found in part at least in the increased patient load of the mental hospitals.

And so, gentlemen, it is my devout hope that you will give the deepest consideration to these problems which I realize must be set off against others you must consider. This is no uncharted sea upon which I am asking you to set some sort of course. I do not ask you to gamble with the people's money. There is no doubt that psychiatry and allied branches of medical science have the power, if adequately financed, to level off and begin to reduce the patient pressure of our mental hospitals even in the face of a rising general population of the Nation. Such a move would not only strengthen our national security but, we believe, is vitally essential to it. For this as well as economic and human reasons, we urge you to increase rather than to cut the funds that are to be allocated to mental health activities.

Senator HILL. Are there any questions, Senator Thye?

Senator THYE. No, I have none. It is a splendid statement.

Senator HILL. It is a very fine statement. I am impressed with this thought, as I am sure Senator Thye is. We have just had an extraordinarily fine piece of work done by the Kefauver committee, and the American people support and sustain that committee's work just as we do. There you have a dramatization of people throughout the country which is fully understood and appreciated. Is not there some way to dramatize the story that you bring out? It is up to the American people themselves to realize that what you are speaking of now are the roots of this thing. They go right down to the heart, to the cause of so many of these problems, the effects of which we see dramatized in other ways.

Miss LEIGHTON. Well, Mr. Senator, there are ways through education. But again, you see, that costs money. That is why we are here.

Mr. ADAMS. Might it not be possible at some time for a congressional committee to go to different places in the country and go into this problem as it is found there? Would that be possible?

Senator HILL. Well, it certainly is something to be considered; is it not, Senator Thye?

Senator THYE. Definitely.

Mr. SCHLAIFER. I would like to say one thing with respect to dramatization. That is a point I kept talking about this morning. You mentioned the fact that millions of people watched the Kefauver investigation. I just wonder how many of them would watch and listen to these hearings this morning. It is my experience from the exhibition of these pictures and the interest of the public that the people of the United States are very much concerned with this problem. Just as we have come here as individuals, I think the point that Mr. Adams makes is good; that is, that there ought to be some attempt to look into these things on the various local levels.

I think Governor Youngdahl of your State, Senator Thye, indicated what happened in getting the public aroused to these things. Some of the things we are asking for will, in effect, help complete that job. It is a dramatic story. It is a story like that of cancer. For a long time nobody wanted to talk about it.

Our next witness is Mr. Arthur Bunker.

Senator THYE. While Mr. Bunker is coming forward, I might say that a person who had a mental case or a member of the family who was a mental case did not want to publicize it. Up until only a few years ago they hid such a person. It was an illness of which they were ashamed.

Mr. SCHLAIFER. That is right.

Mr. Bunker comes just at the right time, because he is the chairman of a board of the citizens group of the National Association for Mental Health which has just combined to do that job. It has been in existence for a long time as three separate organizations. Mr. Bunker, Miss Leighton, and others have brought this group together to continue this job, and they are doing an outstanding piece of work of convincing people that it is as easy to admit to mental illness as it is to appendicitis.

Senator HILL. I am intrigued by the caption that Mr. Bunker has given his statement to the committee, "False Economy." I think we all recognize today the compelling need for wise and sane economy, but oftentimes it is not a question of whether you can afford a thing but rather a question as to whether you can afford not to have it. I often think about that in connection with the atomic bomb. I am sure that had it been a failure, the efforts we made and the billions we spent to get it would have been very much derided and criticized, but could we afford not to have the atomic bomb?

STATEMENT OF ARTHUR BUNKER, NEW YORK, N. Y., CHAIRMAN OF THE BOARD, NATIONAL ASSOCIATION FOR MENTAL HEALTH, AND MEMBER, NATIONAL MENTAL HEALTH COMMITTEE

BACKGROUND OF WITNESS

Senator HILL. You may proceed in your own way. Mr. Bunker.

Mr. BUNKER. I am going to make a very short statement. They have asked me to talk on false economy. I happen to be a manufacturer, as a matter of fact, of strategic and critical materials largely concerned with defense. I am president of the Climax Molybdenum Co. I am also connected with other companies such as American Metals Co.

Senator HILL. You are today Commissioner of the President's Materials Policy Commission?

Mr. BUNKER. Yes. I will just mention that in the last war I was here for 4½ years in Washington as Chief of Staff of the War Production Board, so I saw a great many of the problems involved in getting materials to meet the problems of war on both the industrial and military fronts.

GENERAL STATEMENT

I think you gentlemen have one of the toughest problems in the world—how to get 40 or 50 billion dollars, on the one hand, for defense, 20 percent of the whole national economy, and, on the other hand, how to regulate other expenses and nondefense items.

We read wonderful things in our papers to the effect that we can just add 20 percent onto a fabulous industrial machine, but we know it isn't so. So we have to chop and we have to cut. If you don't do it on a planned basis, it is going to be done on an unplanned basis. That is much more disturbing and much more chaotic.

Now, every time we get into a crucial problem taxing our industrial machines to the limit, we very quickly get to the same major shortage, that is, manpower. In World War II we had shortages of plant facilities and materials and what not. That lasted about a year and a half, and then we ran smack up against the big problem, which was manpower.

It is quite interesting, I think, to note that when we started World War II in a great many ways in terms of manpower we were much more favorably situated than we are today. We then had 8 million unemployed to draw upon for the great struggle. When Korea came last June, we had full employment and nobody left over to make all these goods.

MENTAL HEALTH AND THE DEFENSE PROGRAM

The only reason I mention manpower is because I think health and particularly mental health is directly geared to and is part of, in fact, the whole military and defense problem. I don't care whether you talk about mental health at the induction centers or about absenteeism or turn-over of labor or alcoholism. It is, in my opinion, the biggest single scourge and the biggest single drain on the manpower requirements of this country. I don't think you could get a military general in here or a Navy man or an Air Corps man or an industrial supply man from the National Production Authority who wouldn't tell you that the key problem in every one of these things in the last analysis is manpower. If you ask him the question, "Is the maintenance of health a problem of the first order," of course he will tell you that it is a problem of the first order.

All right; what is the greatest scourge amongst all forms of ill health? I think we could say that we agree it is mental ill health.

Now, in coping with mental ill health it is a lot cheaper and more economical to cope with it at the prevention level than to wait until the condition reaches the curative level. So much for that. Then you move from there and say, "Fine, can you, in fact, do anything about it?" Certainly there is a much more obscure feeling in talking about and discussing and considering what you can do in the fields of mental health than there is in the field of cancer, heart disease, paralysis, tuberculosis, and other big issues. I do think that we can say that the whole country at the State level, the Federal level, is much more laggard in using the information which we have in the field of mental health than in any other medical science at all. I suppose there are a lot of reasons for that.

PREVENTING MENTAL ILLNESS

It is more recently acquired knowledge. I think very few of the public, by and large, are aware of what can be done at the preventive rather than the curative level. As a matter of fact, I think we are so laggard in using the tools that we have that it really would be a misfortune to advertise generally that you can do all of these things because, while theoretically you can do them, you haven't the facilities for making use of the knowledge.

If you go out and tell people, in effect, "We can cure you, we can prevent this from becoming very serious, we can put you back on the road to being a useful citizen, only we are very unhappy to have to tell you that we haven't got any facilities although we do know how to do it, we haven't got any psychiatrists or trained attendants, we haven't enough people working at the prevention level, so it is only theoretically possible to cure you," it is just like saying, "Yes, we know perfectly well that you wouldn't die from pneumonia if we had some penicillin, but we don't have any penicillin."

That is really the end of my story except for one thing. To me I think it is astonishing in a sense. Of course, here you have to pick and choose dollars, and that is a tough one. I understand that the public health and welfare appropriation this year is going to be about $2 billion plus. In the entire field of mental health, as far as Federal aid is concerned, we are asking for 1 percent or 1¼ percent. Now, I am certainly not an expert on breaking down that $2 billion, but 1 percent for the entire field of mental health, the greatest scourge of all your medical ills, seems to be too small.

Of course, your problem is different from those of the States. In the State of New York, from which I come, 25 percent of its entire budget is for operating in the field of mental health. There is an appropriation of about $110 million this year for operations, in addition to which this year there is $50 million for construction, as against the entire operating budget of $400 million.

We are sitting down and saying that you can get more for the dollars appropriated, for the dollars spent in the field of mental health, we believe you can get very much more return per dollar than from any other dollar you can appropriate in the area of health problems anywhere.

That is all I have.

Senator HILL. As a businessman, you are trying to sell us on a good investment.

Mr. BUNKER. There is no question about it. I mean there is another side to it which is all the dramatic side, but I am trying to sell you on a good investment.

Senator HILL. Do you have any questions, Senator Thye?

Senator THYE. No questions.

Senator HILL. We want to thank you, sir, for this very splendid contribution.

(The prepared statement of Mr. Bunker is as follows:)

False Economy

(By Arthur Bunker, New York, N. Y.; commissioner, President's Materials Policy Commission; president, Climax Molybdenum Co.; chairman of the board, National Association for Mental Health; and member, National Mental Health Committee)

Judging from several previous appearances before congressional committees, I think I can safely say that the Congress is as aware of, and as sympathetic to, the problems of the mentally ill as any group in America.

However, after hearing all the testimony and weighing all the evidence, the sum of a subcommittee's reaction is always somewhat along these lines: "Your testimony is an important one and a deeply moving one. However, we are faced with tremendous pressure from our constituents to cut all nondefense budget items. The Government is already in debt. We want to support your program, but where are we to get the money?"

As a businessman, and as a citizen who makes a fair contribution to Uncle Sam every March 15, I can appreciate the need to cut out all fat in the budget and cut out all unnecessary taxation. However, as one who has been interested in mental health for 20 years, I am a little puzzled about the inability to appreciate what true economy is when applied to the problem of mental illness.

Let me give you an example. There is a proposal on foot to cut the personnel of all nondefense agencies by 10 percent. Suppose that is applied to the National Institute of Mental Health. There are only 18 full-time psychiatrists handling the tremendously broad program of the Institute, which includes research, training program, and clinical and community services which extend into the 48 States. No one will deny that the number of psychiatrists in the Institute should be doubled—present manpower is spread too thin and is forced to neglect many regional and State programs. But if you make this 10-percent cut, you lop off 2 of the 18 hard-pressed and overburdened psychiatrists.

Extend this to the State level. There are only 94 full-time psychiatrists in State mental health programs aided by Federal grants—a pitiably small nucleus which is trying to administer to several million mentally ill in the 48 States. Cut this 10 percent and you lop off 9 psychiatrists, and this despite a recently published report which notes that a minimum of 39 more psychiatrists is needed right now in State mental health programs.

There are only 5,000 psychiatrists in the country. A survey by the American Psychiatric Association estimates that 15,000 more are needed. But if you cut the limited training program now being stimulated by grants-in-aid to the States, how will you ever close up the enormous gap between the existent supply and the demonstrated need?

I am also puzzled when I hear that the people have given Congress a mandate to cut these vital services. The American people have time and time again demonstrated their willingness to be taxed for support of research and training programs in mental health in order to cut down the staggering cost of maintaining hundreds of thousands of unproductive mentally ill patients in hospitals. Up until a few years ago the States used to boast of spending less than a dollar a day per capita for maintenance of mental patients. The State legislatures told the people that this was economy. The people weren't fooled. In State after State in recent years—in California, Minnesota, Oklahoma, Kansas, Colorado, Illinois, and many others—the people have gotten behind, and pushed through, reform programs which accent a tripling of the per capita cost so that the mentally ill can be cured and returned to society. In a number of these States, the people voted bond issues at special elections to provide an intensive treatment program for the mentally ill, and in every one of these States the people knew this would require additional taxes.

At present we are spending $750,000,000 a year for the maintenance of the mentally ill in hospitals, and the cost is rising every year. Which is the real economy—to spend more money now to cure these people or to cut the treatment program and allow these people to pile up and overload our mental hospitals?

Suppose we apply this 10 percent cut to the research program of the National Institute of Mental Health? In 1950, in this great Nation of ours, we spent, from both public and private sources, a little more than $3,000,000 for research into the vagaries of the human mind, of which approximately $1,000,000 was administered under the Institute. For every dollar spent in psychiatric research, we spent $65 in other medical research and $2,500 in industrial research. For every hospitalized case of mental illness, we spent $1 in research—a shamefully inadequate sum. Would you want this cut to 90 cents?

The advocates of so-called economy go even further. They cry out that the States should take over the financing of a broadened mental health program. These advocates imply that the States are lying down on the job. Charges of this kind fly in the face of irrefutable facts. For example, the State of New York, where I live, spends more than one-third of its entire operating budget—more than $108,000,000 in 1951–52—for maintenance of mental hospitals and another 50 million for construction. Most other States spend a large portion of their budgets for institutional care of the mentally ill.

In fact, the Governors of many leading States have appealed to the national mental health organizations for help in convincing the Congress to support a national training and research program. Most States do not have the advanced psychiatric facilities to conduct approved training and research programs—this will take years and years of building. They must depend upon the National Institute of Mental Health to coordinate an over-all attack on mental illness. We have had wires recently from the Governors of California, Colorado, Illinois, Arkansas, and Minnesota urging us to point out to the Congress that the States themselves cannot support permanently the burden of maintenance of the mentally ill; they must be given the research and training tools so they can cut down the incidence of mental illness at the source.

It is also argued that as the Federal Government steps increasingly into the picture, State participation lessens. Just the contrary is true. In 1937, the total reported expenditure for State and local health services was $22,000,000. About 35 percent of that was from Federal grants. In 1946, the total expenditure had increased for all these purposes to $109,000,000, but the percentage derived from Federal funds was lower than it was in 1937—28 percent. I think this proves what we all sense—Federal aid stimulates, rather than diminishes, State programs.

But I have been too much on the defensive. I am appearing before this subcommittee because I believe we must expand our mental health programs far beyond the limited amounts envisaged in the Budget Bureau recommendations. The additional demands made upon our limited health resources by our gigantic mobilization effort are enormous.

Take the problem of manpower. Up at Columbia University in New York they have a conservation of human resources project which is delving deeply into our failure to rehabilitate and use thousands upon thousands of so-called poor performers in our vast mobilization effort. The project is giving particular attention to the potential use on the military and civilian production fronts of psychoneurotics, delinquents, and borderline deficients. Dr. Eli Ginzberg, director of the project, warns that we are not giving sufficient attention to the fact that the United States is now outnumbered by its potential enemies in terms of manpower and that in the present crisis we will have to use every man who possesses no major disqualifying defect. Because we are no longer manpower rich, we must develop methods of using every citizen capable of even making a partial contribution to our defense effort.

Last year, in testimony before this very committee, John C. Virden, a Cleveland manufacturer, stated his belief that mental illness was responsible for more absenteeism and more expense to the taxpayer than all other diseases combined. Surely then, we must expand our mental health programs so that we can restore many of these mentally ill to productive usefulness.

Problems created by civil defense pose vast additional demands. In order to preserve the mental health and morale of our people in the face of the uncertainties and fears engendered by potential use of the atomic bomb and biological and chemical warfare, we must develop new resources to prevent individual breakdown and mass panic. Medical experts have pointed out that the only way to meet the critical needs of civil defense is to develop a better preventive program and an early treatment program. For these tasks, we need more psychiatrists and more mental hygiene clinics. There is also a desperate need for immediate research in mental health as related to civil defense—studies of individual stress, mass panic, spreading of rumors, etc.

These are just a few of the many new demands now made upon the inadequate mental health facilities of the country. In order for us to do the job, the Congress must appropriate additional moneys to give us the tools.

STATEMENT OF DR. O. SPURGEON ENGLISH, MEMBER, NATIONAL MENTAL HEALTH COMMITTEE, AND PROFESSOR AND HEAD OF DEPARTMENT OF PSYCHIATRY, TEMPLE UNIVERSITY MEDICAL SCHOOL AND HOSPITAL

GENERAL STATEMENT

Senator HILL. Now, Dr. English, I see you are our next witness.

Mr. SCHLAIFER. Yes; that is right, sir.

Senator HILL. Dr. English, I note that you are professor and head of the Department of Psychiatry of Temple University Medical School and Hospital.

Dr. ENGLISH. That is right, sir.

Senator HILL. All right, Doctor, you may proceed in your own way.

Dr. ENGLISH. Gentlemen, you have been hearing about the end results of mental disease as they appear in men who have been rejected for service or who have become ill and need treatment while in the military service or who occupy the beds of our mental hospitals throughout the country. Now I have been working in a general hospital seeing patients now for a great many years and seeing the people who come through a large out-patient clinic. I thought I would like to just tell you a little bit about what comes in at the bottom of this pyramid of mental illness.

These figures of people who fall ill in the armed services or these people who are ill in mental hospitals today, as I see it, form the peak of the pyramid, and it is a very great problem. I would like to say a little bit about the bottom of the pyramid, these mentally sick people.

CAUSES OF MENTAL ILLNESS

The onset of mental illness is a very subtle one and comes from things such as follows:

(1) People who never find the right job.

(2) People who are uncreative workers on the job.

(3) Young people who cannot create a stable marriage or a stable home.

(4) People who fall ill with various aches and pains when they have to meet responsibility.

(5) People with distorted sexual emotions which they cannot manage.

(6) People who feel the world has no future.

(7) People who have no purpose or goal.

(8) People who are riddled with prejudice and hatred.

(9) People burdened with self-doubt.

(10) People needing alcohol or sleeping pills or some other drug to make each day bearable.

(11) People bent on getting something for nothing.

(12) People who scheme to live the most parasitic, dependent kind of life possible.

Now these are some of the people from whom come some type of mental disturbance. There are, of course, others, but those are a few that come to my mind.

Now these aren't people who are occupying a hospital bed, but they are weak units in our democratic structure, and we need to diminish their number.

Who is working on this problem? Psychiatrists are bringing their insight, gained from a study of the end results of mental illness, to all areas of education, into industry, into the courts, and into the training of personnel for positions of leadership. But we need more trained psychiatrists and more research, and the perfection of methods to prevent this staggering load of mental illness and strengthen our population.

If money is spent early and wisely to help us strengthen the mental structure of people and to put them into productive positions in life, we will have done one of the most telling things for our mental health problem.

IMPORTANCE OF EARLY TREATMENT

One of the hard spots of a doctor's work from day to day, in working with these people, is to see what could have been done, what these people might have escaped in the way of their fate of illness, if they had had the right things done at the right time and if the right conditions had prevailed early enough in their lives. I feel that devoting this citizens' budget will help tremendously in this problem of creating happier minds from the beginning and thereby reduce the amount of mental illness that we have to contend with. It seems to me that is equally important, if not even more important, than treating those who are already ill and occupying hospital beds somewhere.

Senator HILL. Doctor, are you doing much research in mental hygiene at Temple University?

Dr. ENGLISH. No; we are not. We haven't the funds for it.

Senator HILL. Do any of the other universities there have any funds for that purpose, do you know?

Dr. ENGLISH. Do you mean in the Philadelphia area?

Senator HILL. Yes.

Dr. ENGLISH. I don't know how much is being done in the other areas. Not very much is being done, I am afraid, for the same reason, namely, that there aren't the funds available for it.

Senator HILL. Philadelphia has been outstanding in its work in medicine and surgery, and I often say that just as Philadelphia was the cradle of government, it is also the cradle of American medicine and surgery. If you haven't the funds there, I do not imagine there are very many funds in other places.

Senator Thye, any questions?

FURTHER DISCUSSION OF DRUG ADDICTION BY TEEN-AGERS

Senator THYE. Doctor, would you care to express a thought or opinion on the question of why so many youths have become users of drugs in what seems to be just recent years? There seems to be a wave of that. I raised the question with Miss Leighton, and I did then because I was primarily seeking information. I wonder whether you could comment on that.

Dr. ENGLISH. Yes. I think it is due to the fact that these young people don't learn early enough in life satisfactory ways of channeling their emotions into wholesome and healthy things that bring satisfac-

tion to them. If the young person isn't occupied in something he likes to do or if he doesn't feel useful or doesn't get satisfaction in his work or play, he is going to become tense within and he is going to turn to something that is going to make him simply feel better. Of course, alcohol or drugs or marijuana, which is one of the drugs, when taken gives him a sense of well-being, a thrill, a kick, that he might easily get from a job or which he might easily get from some wholesome enterprise in school.

Senator THYE. Doctor, this is a very sincere question. Was the chore in the old-fashioned home like filling the wood box, taking out the ashes, carrying in the water, things of that nature, something that occupied the youth to a point where they worked off some of this inner tension?

Dr. ENGLISH. Absolutely.

Senator THYE. Are we in our modern day depriving the youth of some of the things that we should try to find substitutes for in order that we may permit youth to work off some of this inner tension? If we are under tension, there is either a hobby or a change in occupation that will relieve us of that tension, whether it be manual labor or fishing or whatever it may be.

Dr. ENGLISH. Yes, indeed, Senator, that is very important indeed. Social changes have come. We have oil heat instead of the wood box. We have a high urban population with no lawn to mow, no work to do. That is one of the great community problems, even in the better communities of this country, that is, to find something for the boys and the girls to do.

Senator THYE. How do we substitute? We must find a way. If we see that our standard of living and our social structure of today is in itself a pitfall that youth is falling into unconsciously and that we are responsible for it, how do we overcome that? We cannot replace the oil burner or the gas burner with the wood box. We know we cannot. But how can we substitute other chores that will keep youth busy?

INDIVIDUAL GUIDANCE A NECESSITY

Dr. ENGLISH. I think we need people who will help the leaders and help the parents and help the clergymen and help the social workers who are the community leaders who have all of these young people in their hands. Those people are looking for individual guidance to produce that substitute or to provide something in that community that is creative for the young people. I think it can be produced if they can get their heads together and get the right kind of leadership and think it out. I think there are many fine communities and all levels of society that need help in figuring this out, and they need leadership.

So often they look to psychiatrists to provide that leadership because they are looked upon as the people who are the specialists in mental health or in the way the mind functions. We are waiting for leadership, I believe. I think parents want very much to do the best things for the children everywhere, all over the Nation. I think we are keenly aware of this problem, but they sit around and they are unhappy about it and they are distressed about it and confused about it. They are waiting for leadership to give them a plan to provide something in each community for these young people.

I am an anachronism as a scientist. I teach a Sunday school, and I have a Sunday school class of young parents. Every Sunday we discuss the problems of their young children. These very problems come up. What do you do for a boy who is sitting around and who is at loose ends and doesn't know what to do? He is sulking and there isn't anything to do. The parents want to know how to help him. The church is providing some answer and the school is providing some answer. But the resources aren't pooled and they aren't focused sharply on what the boys and the girls should be doing.

We discuss, for instance, the Kefauver committee and their findings, and we say, "What is the application of that to our community and to our boys and girls who are growing up and becoming dissatisfied and having no goal and no purpose and getting the wrong kinds of emotions and drifting into difficulties?"

People need leadership and guidance for that. I am sure we can find things for young people to do if we are resourceful ourselves. We can replace the wood box with games, competitive games, and I don't think it is so terribly expensive. The parents of the Nation must sit down and think about it. But I do think they need skilled leadership and guidance.

NEED FOR TRAINED PSYCHIATRISTS

Senator HILL. Will you relate this need, the need for leadership, to the specific proposals we have before us now, please?

Dr. ENGLISH. Yes. A trained psychiatrist—and I am not doing research, but am training young psychiatrists—a psychiatrist trained in a hospital will go into the court, will be a man to go into the court, to go into the community and go into a school system and sit with the teachers and sit with the principals and sit with the parents of the community and get down to some plan for these young people to help them with their thinking.

Senator HILL. In other words, just as we have local public health officers, or should have one in every community, you think that maybe there should be a local psychiatrist?

Dr. ENGLISH. I certainly do.

Senator HILL. That local psychiatrist would provide the leadership and the guidance in this field to which Senator Thye has so ably referred?

Dr. ENGLISH. Right.

Senator THYE. That is important. But in so many of our larger communities, that is, the urban centers, they don't recognize it until something has happened to the youth in a certain area. Then they awaken to the fact that there are hundreds of youths who have already gone into the pit and whose lives are marred. It is for that reason that I have raised the question, Can we start a movement wherein we erase this before it has an opportunity to blemish a child's life?

Dr. ENGLISH. Yes. I believe education is ready, and I believe the churches are ready and I believe the parents are ready. Parent-teacher groups are very ready and eager to help.

Senator THYE. I support the Boy Scouts. I am on their national committee for the reason that I saw an opportunity for youth to be occupied. I saw how apparent it was that that group in a community could do constructive work.

SHIFTING POPULATION A FACTOR

I am just wondering how we go about this because our population is decreasing in rural areas and our urban centers are getting greater. Every time you get a congestion of people in a center, this question of how to make use of youth's time comes up, so that youth has recreation, a place for recreation, and a useful purpose so that they do not get into mischief.

Dr. ENGLISH. The demands and calls to our department, to my office, for discussion leaders to go out into the community, into parents' groups and school groups is tremendous. We can't begin to meet it. We haven't the men on our staff to answer these calls and go out. But I think the public is ready and are answering this group you speak of where the trouble hasn't appeared as yet. I think there is an awareness and a desire for trained people to go out and help them.

Senator HILL. I am wondering in this connection how much of this trained leadership or guidance we have today in our teachers' colleges and in other schools of education where we are turning out our educators and our teachers.

Dr. ENGLISH. We have very little of that. A study that is going on indicates that there are very, very few of our teachers' colleges that are doing that. But they are interested and they want it. We haven't the men to supply them. But study has revealed the dearth of it and the study has revealed the need of it.

Senator HILL. Are there any other questions?

Mr. SCHLAIFER. I might add that you gentlemen are responsible in the past 2 or 3 years, through the Institute of Mental Health, for having established around 1,100 guiding centers that Dr. English is talking about through cooperation with State and city governments. The only problem today, as Dr. English points out, is that we just don't have enough people. There are only 5,000 psychiatrists in the country.

Senator HILL. You don't have the technicians to do the job, in other words?

Mr. SCHLAIFER. That is right.

Dr. ENGLISH. I personally made a study of the teachers' colleges in Pennsylvania, New Jersey, and Delaware, and I found out that there isn't a consultant being used there because they are not available.

Senator HILL. They are not to be had?

Dr. ENGLISH. Not to be had.

Senator HILL. Doctor, I notice that you are the head of the department of psychiatry at Temple University. Do you have time for private practice, too?

Dr. ENGLISH. Yes; I do some private practice as well as teaching and hospital work.

Senator HILL. Are there any further questions?

Senator THYE. I have none.

Senator HILL. Well, Doctor, we want to thank you for coming down here and bringing us this challenging message.

Senator THYE. This has been one of the most interesting committee sessions that I have attended for quite a while, and I say that in all sincerity.

Senator HILL. Thank you, Dr. English.

(The prepared statement of Dr. English is as follows:)

STATEMENT BY O. SPURGEON ENGLISH, M. D., MEMBER, NATIONAL MENTAL HEALTH COMMITTEE, PROFESSOR AND HEAD OF DEPARTMENT OF PSYCHIATRY, TEMPLE UNIVERSITY MEDICAL SCHOOL AND HOSPITAL

The problem of mental illness in the United States today is a challenge that for some unaccountable reason many people are not willing to accept. Our most important commodity * * * the average citizen * * * is being threatened. He is being threatened by mental illness. And we aren't doing enough about it.

Why is this? Are we ashamed of what the figures reveal? Can we not cope with this threat? Is the know-how not there? Are we no longer pioneers who face serious difficulties as our forefathers did? Or, do we just not recognize the seriousness of the situation because these people are not lying broken and bleeding before our eyes. I think the latter is true.

Few people seem to realize how many in the United States suffer from some form of mental illness. And few realize just how great the need for psychiatric care is. Statistics show that more than 1 in every 18 persons is now suffering from some form of mental illness, and that every 10 persons will need psychiatric care at some time during his life—yet we have not provided the money nor personnel to combat this grave threat.

We speak of the defense effort, both military and civilian, and agree it is of paramount importance. But, in addition to defense measures, we need to follow up the conflict with a strong civilian population as free as possible from mental or emotional illness. What can be more important to the defense of this Nation than a program of research and training in mental health that will eventually result in saving the lives, bodies, and minds of our men in battle, of our men who man the machines, of our children who are the manpower of tomorrow?

Much has been said and written about mental health but few seem to want to really believe that 65 percent of all people who are ill and under treatment on any one day suffer from mental and/or emotional illness.

Figures prove this, they are there for all to see. More than one out of three men were rejected in World War II because of mental illness. Fifty-two percent of discharges after induction were due to mental illness. Forty-one percent of the total manpower loss to the Army for ill health was due to mental illness. In the present Korean conflict psychiatric casualties are even greater than in World War II, and rejections at induction centers, we are told, are increasing too.

Surely, we urgently need to increase the number of trained personnel to combat such threats to the health of our armed services now. For there were not nearly enough trained psychiatrists in World War II. And there are not nearly enough now. Fifteen thousand trained psychiatrists are needed; we have five thousand.

It is well known that early psychiatric treatment not only restores men to active duty, but also prevents mental conditions from becoming chronic. How can this be accomplished if there is neither personnel, research, nor a planned training program available? Certainly, this is an investment as important as the fastest plane or the most devastating bomb.

There is a crying need for research in the field of psychiatry to find ways to give strength and support to the potentially sick man. We need to know more about neutralizing the effects of distress situations which cause mental breakdown during war. Much was learned and applied in World War II but we still need very much more. We must develop better treatment methods for the neuropsychiatric casualty who, it has been estimated, is 16 times more prone to develop permanent disability than any other type illness. It is this possibility we must fight * * * the possibility of chronicity that could be avoided if there were enough trained psychiatrists and personnel available for our armed services and civilian population as well.

Think of the enormous saving to the Government, to all of us, if these things were done. For, the cost of caring for one service-connected neuropsychiatric patient, alone, costs the Government an average of about $30,000 during the patient's lifetime.

The whole picture of emotional illness in the Armed Forces, alone, is a serious and thought-provoking one. It does seem obvious, however, that it is a poor economy indeed that fails to provide the means to treat mental illness early and effectively, yet seems to condone long periods of disability and enormous expense with few effective results. Many psychiatric casualties can become competent citizens again if you will give us the means to make them so.

In spite of the fact that the needs of the military take precedence over everything else at the moment, we should not lose sight of the grave problem of mental

health confronting us on the home front. The number of problem children, delinquents, misfits-on-the-job, neurotics, psychotics, and asocial personalities, ill among us at all times, must be greatly reduced in number. They all need psychiatric help.

We need to apply new psychiatric knowledge and techniques to the home, the school, the playground, the camp, in order to produce a more stable and better functioning youth and future citizen.

The human mind is by no means reaching its potential height. We need more research and more trained personnel working constructively in the field of psychiatry in order to give us the information and techniques that will produce better motivated, stronger citizens.

The security, health, and welfare of the average citizen must be given the attention it deserves. He is our potential strength and it is from him that our fighting force is drawn. Initial planning begins with him and he must be taught how to meet the demands of life in an able, healthy, and mature fashion. His positive mental health, or strength, must be our major concern for a long time to come. Unless we pay more attention to it now, we will find that we have overlooked one of our most serious national problems.

Let us remember, that mental illness is no respector of race, creed, persons, or age. It can affect everyone. It strikes quickly and causes untold suffering and waste of human energies. Already our hospitals are filled; our clinics overcrowded. There are too many unhappy, dissatisfied, discontented people, half-heartedly playing life's role. There are too many people incapacitated, unable to do useful work because of the body aches and pains that stem from maladjusted emotional origins.

We must have a better understanding of mental illness and take measures to prevent it. The National Institute of Mental Health has planned such a program—a preventive program for both the armed services and civilian population. It needs money and power to carry it through. It can be done if the 1952 citizen's budget proposal is approved. Only then will we, in any way, begin solving our great problem of mental illness.

STATEMENT OF DR. FLORENCE POWDERMAKER, NEW YORK, N. Y., PSYCHIATRIC CONSULTANT FOR THE VETERANS' ADMINISTRATION AND THE DEPARTMENT OF THE ARMY

BACKGROUND OF WITNESS

Senator HILL. Our next witness is Dr. Florence Powdermaker. We are glad to have you here, Dr. Powdermaker. You are from New York, I believe?

Dr. POWDERMAKER. Yes.

Senator HILL. You are both a Ph. D. and an M. D.?

Dr. POWDERMAKER. Yes.

Senator HILL. And you are a consultant for the Veterans' Administration and Department of the Army?

Dr. POWDERMAKER. That is right.

Perhaps I might enlarge on some of the subjects brought out by the nonpsychiatric members here.

Senator HILL. Excuse me. Dr. English, would you like to come up and sit a little closer so you can hear what your confrere says.

Dr. POWDERMAKER. As far as delinquency is concerned, in which I take it you are very interested, I was psychiatrist for a home for delinquent girls for 8 years.

Senator HILL. Where?

Dr. POWDERMAKER. In Brooklyn. I was the psychiatric consultant, and I ran it as a research proposition. I was fortunate enough to get practically everything I asked for in the way of money. I took it with the understanding that it would be for research and that I could do anything I felt was worth while for the girls.

It was a small home. This bears out what Mr. Bunker said so well as to what we know but haven't the money to do. A survey was made, after we had run this home for about 8 years, by an outside agency of a large number of homes for delinquents. We had the highest cost per person per day in that home of the whole country. We had the lowest cost per person per rehabilitation. We had practically no repeat cases—and it was a long time follow-up.

So given a free hand to do what is indicated, you actually save money by spending it wisely. To me that was one of the most important things that we got out of that study, apart from realizing how to handle it.

To answer your question, Senator Thye, about the homes, these children came from the slums of New York, really. Every child we had—I think this is correct—came from some kind of a broken home or had been brought up from earliest youth in a rather poor orphanage. That was universal. I don't think we had a single child from a good home.

QUESTION OF ORPHANAGES VERSUS FOSTER HOMES

Senator THYE. Might I ask you this question, Doctor. You say that some were from a poor orphanage. Am I right in my conviction that a child is much better off in a foster home?

Dr. POWDERMAKER. Oh, far better.

Senator THYE. Than in an orphanage?

Dr. POWDERMAKER. Far better.

Senator THYE. When I was Governor we closed the orphanage in the city of Oronoco and we emphasized the foster parents. We established a small receiving center in connection with the University of Minnesota so we could take them and put them right in the university medical clinic in order to determine their physical condition before we proceeded with their foster parents and adoption program.

SHORTAGE OF PSYCHIATRISTS

Dr. POWDERMAKER. Further in relation to the need for personnel, do you know that if a person in New York City feels depressed, maybe feels suicidal, thinks that if he can only get some help he might be all right, and if that person goes to Bellevue, the out-patient service at Bellevue, say, on the 5th of January, and says, "I am feeling bad, and I would like to talk to a psychiatrist," they say, "Very well, Mr. Smith, I can give you an appointment on July 5."

Senator HILL. He may jump off the roof in the meantime?

Dr. POWDERMAKER. Exactly. At Bellevue Hospital they are 6 months ahead of what they can take care of.

For many years I have been on the staff at Vanderbilt Clinic at Presbyterian Hospital in New York. I tried to get an old patient, an old clinic patient of mine, who can't be taken care of in the private office because she needs social work help in addition. It took me 2 months to get that girl in a clinic in which I had worked since 1930 and in which I have an in and can say, "Look, for goodness sake, can't we get this girl in," to the head of the clinic. It took me 2 months, not because they didn't want to, goodness knows, but because that is the actual situation.

In private practice it is no better. I think that as to any reasonably good psychiatrist who is interested in public welfare, teaching and research, if there were 10 of him he could still do far more than he had time for. There could be 10 people replacing him.

NEED FOR PSYCHIATRISTS IN ARMED SERVICES

Now, I came here specifically not to talk about this but about the Armed Forces. The reason I happen to know about research and training in the Armed Forces is that when the war came I was taken into the United States Public Health Service, detached to the Navy, and assigned to the Maritime Commission. I was in charge of the training of young doctors, young psychiatrists in research and therapy at the rest centers for the merchant marine. We saw the boys who had been to Murmansk and in the Caribbean before the African push, and so on. I had charge of their therapy in the seven rest centers around the country and the training of the doctors to do it. So I got around a lot, and to the Army and Navy installations as well.

When the war was over General Halsey asked me to come to the Veterans' Administration. There I was in charge of the psychiatric training program in the Veterans' Administration and also had a good bit to do with the research program there. It was part of my job to get the cooperation of the medical schools, the psychiatric departments of the medical schools, in helping in the training program of young psychiatrists for the Veterans' Administration. So I have some notion of that factor.

PSYCHIATRIC CASUALTIES IN WORLD WAR II

Now, the need for trained psychiatrists in the Armed Forces is fantastic. We had approximately 1,000,000 psychiatric admissions in World War II, psychiatric casualties. About 43 percent of the casualties were psychiatric. The need for trained people is terrific.

We find in Korea that where we can put enough psychiatrists in the front lines, right back of the front lines, they can return between 70 and 80 percent of the casualties back into the lines again. In our work we got something like 70 percent of the seamen back to sea in 3 weeks. That was because we trained the men, we worked with them, and we put everything we had into it.

TOTAL PSYCHIATRISTS IN ARMY

I just called the Pentagon before I came here to get the latest figures as to how many psychiatrists the Army has at the moment, including the Regular Army psychiatrists and the Reserves. Mr. Senator, they have 228 psychiatrists as of today and 18 neurologists in the Army of the United States. Now, that isn't because the Army doesn't want them. It is because they can't get them. They aren't here. There are something like 6,000 psychiatrists to serve both the Army, the Navy, the Air Force, the Public Health Service, and the population of the United States. We train them at about a rate of 450 per year. There are not nearly enough places for the men who want psychiatric training. This is a very different proposition than there used to be.

GROUP THERAPY

I thought one of the things you might be interested in was the way some of this money has been spent in the past. When I was in the Veterans' Administration I just couldn't do all administrative work. I am a doctor, and I just couldn't sit at a desk, and so on. So I thought that one of the most important problems today was group therapy. How could we treat a group of patients with one doctor?

Now, there has been quite a lot of that work done, but it has never been brought together. There has been very little research on it. I saw it all over the country in Army and civilian installations, and there was a great variation in treatment. Some of it wasn't very good. So I asked for money to study the problem of group therapy in a veterans' clinic and a veterans' hospital. In the course of 2½ or almost 3 years I had $130,000 which to me was a terrific amount of money. I never had any concept of that much money. But with that I was able to get a first-rate research staff, and they were good.

Now, what came out of that? We have now in process of publication a book which outlines methods of doing research in therapy and also gives the results that we found, the implications for therapy, how people can best form groups as far as their research shows. That book will be published by the Commonwealth Fund.

I am also doing a technical bulletin for the Veterans' Administration which will go to the Army and the Navy.

Now, with that $130,000, we have made it possible in some cases for one doctor to treat five people, say, where before in that time he would only have treated one. That $130,000 is pin money. It doesn't mean anything in terms of these few people.

Then another thing happened. We had at Perry Point Veterans' Administration Hospital a group of ASTP and V–12 doctors. Now, you know there was a lot of difficulty with some of those boys. They were put into a mental hospital, and they wanted training in surgery, in obstetrics, in gynecology, and heavens knows what, but not psychiatry. We decided to use that hospital for our research purposes. I called a meeting of these residents, and I said, "Do you want to participate in this research project," and I gave it to them. They had to do it on their own time. They volunteered. There were 22 of them. Of that number, 20 have become psychiatrists. They have all taken further training and they either are or will be in the Armed Forces in a very short time. Now, that also came out of that money.

So if you offer good training in research you can get men who don't even know they are interested in psychiatry and they will go into psychiatry where the need is greatest. That is how the money that your committee appropriates is spent and how it can be used in the future.

Senator HILL. Let me ask you a question. The Senate Committee on Labor and Public Welfare, of which I happen to be a member, spent a good deal of time in the last Congress working on a bill for Federal aid for medical schools. We passed that bill in the Senate, but it failed of passage in the House. We now have it on the Senate Calendar. So far as the training of psychiatrists is concerned, how many of our medical schools really give any emphasis to the training of psychiatrists? As you say, there is a great disposition on the part

of young doctors to either want to be surgeons or internists. What about it; are the schools emphasizing psychiatry?

Dr. POWDERMAKER. To a much greater extent than ever before. We had 33 residency training programs in the Veterans' Administration which meant, with that much larger number, that practically every medical school in the country was cooperating with our residency training program. That meant also that it seeped down into the undergraduate training. You cannot have a good graduate training course without having a good group of psychiatrists, and so that goes down into the undergraduate work.

Senator HILL. Now, without having any thought in mind, perhaps, you have made a fine argument here for our deans' committee in connection with our veterans' hospitals.

Dr. POWDERMAKER. Oh, those deans' committees have been invaluable, sir. I have worked with them very closely, and I can't tell you how invaluable they are.

Senator HILL. I also happen to be on the subcommittee that has been considering the Veterans' Administration. I will say that there is a slight disagreement there, as we know it.

Senator Thye, any questions?

Senator THYE. No.

Senator HILL. We want to thank you for your contribution, Dr. Powdermaker. It has all been most interesting and most informative.

(The prepared statement of Dr. Powdermaker is as follows:)

MENTAL HEALTH RESEARCH AND THE TRAINING OF PSYCHIATRIC AND ALLIED PERSONNEL IN THE ARMED FORCES

By Florence Powdermaker, M. D., Ph. D., New York, N. Y., psychiatric consultant for the Veterans' Administration and the Department of the Army

I am Florence Powdermaker, a psychiatrist. During most of my professional life, I have been engaged in research and teaching in psychiatry. I am especially familiar with the psychiatric needs of the Armed Forces and the impact of psychiatric casualties on our military operations. At the present time, I am serving as a psychiatric consultant for both the Veterans' Administration and the Department of the Army.

In the brief time allotted to me, I would like to urge that in judging the many important demands on the Public Treasury, the psychiatric requirements of the Armed Forces should not be neglected, through failure to appropriate adequate amounts to the research and training program of the National Institute of Mental Health. I cannot say too strongly that this training program furnishes the pool of personnel from which all military psychiatric personnel is drawn. This program is the foundation of military psychiatry in the Armed Forces.

In assessing the importance of this mental health problem, we must never forget the vast scope of the military manpower losses to our Armed Forces during World War II. They were as follows:

Of all men rejected before induction, 1,846,000, or 38 percent of all medical causes, were rejected because of mental illness.

Of those discharged after induction by both Army and Navy, 718,184, or 52 percent of all discharges after induction for medical causes, were due to mental illness.

If we add those rejections before induction to discharges after induction, we have the total manpower loss to the Armed Forces. This comes to 2,564,184 men lost to the Armed Forces because of mental illness—that is, 41 percent of the total loss due to ill health.

Now, these are staggering losses and surely we cannot afford to appropriate inadequate funds to combat these losses. This is a military program just as certainly as if it were part of the armed services budget.

We must remember another point also: That money for this program can save colossal amounts to the Nation's taxpayers. We cannot ignore the following:

1. Psychiatric battle casualties are 16 times more liable to result in permanent disability than any other type of illness or injury.

2. Each hospitalized psychiatric patient cost the Government an average of about $30,000 during his lifetime.

3. Over half of the Veterans' Administration hospital population are now psychiatric patients.

In addition to the foregoing, the research and training we advocate will increase the resistance of individuals the country over against emotional breakdown under military or civilian disaster. Many persons rocking along, living more or less normal lives, but prone to breakdown under stress, can be strengthened through psychiatric help.

We do not have sufficient personnel to put into practice all the know-how at present provided by medical science. Moreover, there are many areas of psychiatry in which we lack sufficient knowledge. We need to know more about the prevalence of different kinds of mental diseases in the various communities and areas in the Nation. We are on the threshold of, but now have too little definite knowledge of, the causes of the major mental disorders, the so-called insane. We desperately need facilities for research on healthy and normal personality development of children, about normal growth and ways to maintain mental health, about the social and cultural forces of everyday life, about many serious social problems, facing us today—crime, delinquency, divorce, and alcoholism, to mention only a few. The $24 million budget we are advocating today will put to work the full potential for research, training, and community services which is available to the Nation. A lesser amount will cause part of this potential to wither through lack of funds.

Knowing as I do the desperate plight of our medical institutions, I must stress also the request in the citizens' budget for the $8 million appropriation for construction grants for research and training activity connected with mental hospitals and medical schools. We cannot train personnel without a place for them to work. We must have a network of training centers distributed so that they will reach prospective students in all areas of the Nation.

Now to return to the military problem—two main points we must remember: Psychiatric disorders from battle stress are particularly amenable to immediate treatment in the battle zone, but without treatment a more crystallized illness results. We must, therefore, train enough psychiatrists to have them available in the battle zones. Secondly, when war neuroses are given this immediate treatment, from 40 to 60 percent can be returned to active combat duty and an additional 20–40 percent to noncombat duty in the forward areas. This is possible only if we train enough psychiatrists and allied personnel, and only the budget of the National Institute of Mental Health can do it.

It should not be forgotten here that this same program makes possible rehabilitative work through the Veterans' Administration which can save gigantic sums in hospital care.

In summary, therefore, I wish to say that from every standpoint this mental health activity is essential to the defense of the Nation, and will save the taxpayer money in the long run.

Mr. SCHLAIFER. Mr. Chairman, our time is about running out, but I wonder whether we might have just one minute to have Governor Youngdahl's statement read into the record. The other statements we would like to have introduced into the record because they will take more time.

Senator HILL. All right.

STATEMENT OF MIKE GORMAN, MEMBER, NATIONAL MENTAL HEALTH COMMITTEE

NATIONAL INSTITUTE OF MENTAL HEALTH

Mr. GORMAN. My name is Mike Gorman. I have toured mental hospitals in 26 States. I was the first newspaperman to receive a Lasker Foundation award for writing in psychiatry. My book, Oklahoma Attacks Its Snake Pits, was condensed in Reader's Digest magazine. I am a member of National Mental Health Committee.

In my tour, I visited seven mental hospitals in Minnesota, Bryce Hospital at Tuscaloosa. I was unable to get to the one at Mount Vernon.

Senator HILL. But you did visit the one in Tuscaloosa?

Mr. GORMAN. Yes. It shows tremendous improvement.

I have close affinity with several governors, including Governor Youngdahl, because I have been up there six or seven times. I would like to read his statement, which is very brief. I am sure Senator Thye will be interested in it particularly.

STATEMENT OF GOVERNOR YOUNGDAHL

The Minnesota Legislature recently completed the task of determining the State budget for the coming biennium. Funds were provided to enable us to continue and to make some improvements in the expanded mental health program inaugurated 2 years ago. I am more convinced than ever that the people of this State desire to provide adequately for the care and treatment of the mentally ill; that they, in fact, favored an even larger appropriation for this humanitarian work than was finally allotted.

Minnesota, like its sister States, is handicapped by the lack of available psychiatrists and auxiliary personnel. It is also slowed down in its efforts by the over-all dearth of precise knowledge as to the cause and cure of many types of mental illness.

For these reasons, I urge the Congress to support the work of the National Institute of Mental Health which, since its establishment in 1946, has become the focal point in this country for the coordination and stimulation of research, training, and clinical services in the mental-health field. In the past 5 years it has distributed more than $10,000,000 to the States in matching grants-in-aid to help train psychiatric personnel, promote research, and open new mental health clinics. However, it has been severely handicapped by inadequate funds. Last year, because of limited appropriations, it was forced to lay aside 191 approved research projects totaling $2,865,000 and hundreds of approved training grants totaling in excess of $2,000,000.

We on the State level need this research and training stimulus if we are to return the mentally ill to useful roles in society. I therefore urge you to give careful consideration to the citizens' budget recommendations for the National Institute for fiscal year 1952.

STATE BOND ISSUES TO SUPPORT MENTAL HEALTH PROGRAMS

I might say, Mr. Chairman, that the problem in Alabama, Minnesota, Florida, California, Kansas, and Oklahoma is simply this: The citizens since 1945 have said, "We now realize this problem. We are willing to be taxed." They have said that in 17 States. The people have voted themselves bond issues for the treatment of mental illness which they realize is a grass-roots development. But the psychiatric personnel is not available. Minnesota could tomorrow hire 31 psychiatrists for its 7 major mental institutions, but they are not there. Oklahoma needs 48 psychiatrists, social workers, clinical psychologists.

I may be a little intense about this because I have devoted 6 years to it. It is a crime when the people of the States finally rise up on their hind legs and really want to have something done about this and then find that there is not the personnel to put into the program.

The same situation is also true of research. Again the problem is one of not having sufficient research personnel available to find the causes and the cures of many of these baffling mental illnesses. In fact, the States are doing very little along research lines.

Senator THYE. Are we not entering into what we might call a new era, and is it not because of the psychiatrists and the fact that we have advanced into that field of medicine?

I know that as Governor—and I preceded Governor Youngdahl—in the legislative session of 1945, after having visited every institution, after having stood in what we call the bullpen at St. Peter where the criminally insane and those classified as dangerous move about in that yard, I asked the doctors, "What is the answer? Is that young man"—and I had known him from the day he was born, and I pointed my finger at him—"is that young man doomed to wander in this bullpen for the rest of his living days?" I had known him. I knew his father and mother. They were our closest friends. The doctor told me then, "No." He said, "It is a lack of facilities and trained personnel." That was all he needed.

In the legislature of 1945 we earmarked $5,000,000 for institutional improvement. We couldn't get the materials to build in 1945 because the war was on. So we set up an interim committee of which one of the senior State senators was chairman, to proceed to make a study to determine what we should do with the money that the legislature had earmarked.

After having visited all those institutions during the first term as governor and having seen those pitiful cases, I was thoroughly convinced that we had to open a new chapter. Well, I left the governorship and came down here to the Senate; and it has always been a most gratifying thing to me to see what Governor Youngdahl has done in his masterful way. He has so much ability to persuade or to bring the thought and the question out before the public of fighting for this program.

I am grateful to you, sir, that you go about covering these State institutions and writing the stories that you do to create the public interest that you have created through your ability as a writer.

PER CAPITA MENTAL PATIENT ALLOWANCE IN MINNESOTA

Mr. GORMAN. Thank you, Senator. If I might make a further point about Minnesota, about which I am very happy, it now has the highest per capita allowance per day per mental patient—$4.16 per day.

Senator THYE. If I may interrupt there further, in the institutions during the war years in my State we were never able to keep much more than about a 90 percent full complement of personnel, and we had to turn some back because we were unable to get help because they just were not available.

Mr. GORMAN. That is true. I think I have visited Minnesota seven times in the last 4 years. The last time I was visiting in Hastings I saw receiving units there that any private institution would be proud of. They are simply magnificient, with snack bars, libraries, and other facilities. If 10 years ago I had said those things should be made a part of mental hospitals, I would have been accused of being a bleeding heart or a soft heart. They are bringing about a tremendously better attitude on the part of mental patients.

CONDITION OF STATE MENTAL HOSPITALS

I saw the same thing at Bryce Hospital. Alabama has come a long way in its per capita expenditure. It does have one difficulty with which I am familiar. They have just eight physicians at Bryce Hospital for what is in excess of 4,000 patients. That means one psychiatrist for 500 patients—and you will agree that there is a little difficulty there.

Senator HILL. They are terribly crowded there.

Mr. GORMAN. Yes. It is a broad problem.

In closing, I would like to make one point. I have been deeply interested in how, in many cases, after having done what I can in my small way, people are still totally indifferent. We present the facts. We use the media of communication. We explain the problem, we have psychiatric testimony, but still no result. People have asked me, "Well, how do you do this thing?" My only answer is always, "Take members of the legislature or take the governor into the mental hospital."

I remember this more than anything else in my life. The majority leader in the Senate of the State of Oklahoma, where I am from, was bitterly opposed to this mental hospital business. He said I was a bleeding heart or a soft heart. Finally one day I said to him, "You are awfully tired of my lobbying, and I am awfully tired of your opposition. I wonder if you would like to take a trip down to the hospital in the section which you have your constituency."

I think the word "constituency" drew a response. We went out there to visit that mental hospital. The legislator, among other things, went out to see the livestock farms for about an hour. I got hold of him, and I said, "I don't want you inspecting the cattle. There are 4,000 patients here whom I want you to see."

He said, "I get it."

I said, "These are good citizens," and they were citizens.

When we got upstairs to this group of locked wards where they had the worst type of psychiatric patients, suddenly as we were walking down the hall, one patient yelled out the name of the State senator. He was very much surprised and he said, "Where did that come from"?

I said, "From one of the cells." "Somebody is calling you," I said.

We opened up the cell door, and this woman came out and said, "How are you, Senator. Don't you know me"?

The Senator looked very shocked and was very upset. This lady said, "Senator, I voted for you nine times. My brother is so and so, a lawyer. My mother is Doctor so and so of Norman, Okla. Don't you know me"?

Well, the shock of having lost the vote and everything else and facing this constituent just simply baffled him. He didn't know what to do. The amenities were difficult for him at that point. He had known that this lady had this terrible depression, and he was amazed that she had recognized him and knew who he was.

When he came down to the garden of the hospital, he was mopping his brow. He said, "Gosh, I can't understand it. Here was a woman I have known for many years, a woman from one of the finest families I have ever known. They are all professional people."

He said, "Why didn't you tell me that they had people like that here?"

I said, "Senator, I have been telling you that for a year."

From that day on he was a terrific proponent. We couldn't stop him on mental hospitals. He wanted all of the budget to go to mental hospitals.

DRAMATIZATION OF MENTAL HEALTH PROGRAM NEEDED

Senator THYE. That is one reason I brought the question up. How can we dramatize this? In the past everyone who has had a mentally retarded child as a member of the family has tried to cover it up. They have tried to keep it from the public. They would hide him, and we treated them as crazy people instead of mentally ill people.

I know that while I had the good fortune of serving 4 years as Governor of the State of Minnesota, my wife and I visited the institutions at mealtime, unannounced. We visited them in the afternoon, and we visited them in the evening unannounced. We came and had an opportunity to see just what the conditions were, how they were fed, how they were bedded, and all the conditions.

I just say to you that we must treat them as mentally ill and unfortunate people rather than as crazy persons, as the old saying went.

Mr. GORMAN. Amen, sir.

Senator THYE. I asked you the question because you are doing a fine job in a splendid manner. You two gentlemen here are responsible for writing this story that brought this matter of the Snake Pit to the motion-picture industry, and you have conveyed a message to the people that has brought the people forth asking that something be done about it rather than drawing a curtain to try to hide a mentally deficient child or person who has had a mental disruption, the person whom in the old days we termed a crazy person.

I am sorry, Mr. Chairman, that I have spoken as long as I have and have taken the time to speak these words; but it is the one question that has been deeper with me while I have had the opportunity to serve in public life than any other question that I have been faced with—that and juvenile delinquency. Reformatories, prisons, and the institutions formed the most depressing part of the job that I had to do. It was just visiting them and not being able to do enough about it.

Senator HILL. Is there anything else? Our time has about run out.

We shall place in the record the statement of Governor McMath and the statement of my good friend, who is a great humanitarian, Mr. Ben May of Mobile, Ala. We will also include in the record the statement of Dr. Ebaugh and Dr. Knight.

Mr. ADAMS. I wonder if we might be sure to have in the record the background statistical material and factual material that is in the folder.

Senator HILL. Certainly.

Mr. SCHLAIFER. May I say a word?

Senator HILL. Yes.

ADDITIONAL FUNDS REQUESTED

Mr. SCHLAIFER. On behalf of the Mental Health Committee I would like to thank you and Senator Thye for your kindness, your courtesy, and your interest in listening to us. We, of course, very much hope you will help us get the additional funds, that is, to help the people of the United States get the additional funds. But, in any event, whatever way you may decide to vote and work for this, I think this hearing today represents a very interesting development in our whole democratic procedure. It is one thing to have people turn on television sets to see the Kefauver committee which did such a fine job, as you said before. But I think for Senators to take time out to listen to something which for many years people refused to entertain, and if they did they were considered suspect, to me is a dramatic interpretation of our democratic processes. I think that if the American people themselves could see committees such as this in action it would go a long ways toward solidifying a greater respect for and belief in our democratic processes.

Senator HILL. Thank you, sir. We want to thank you for those kind words. We want to thank all of you who have been here today for coming down.

I think, Senator Thye, you will agree with me that this has been one of the finest and most enlightening and inspiring hearings we have ever had.

Senator THYE. I wholeheartedly agree with you.

Senator HILL. We will recess until 2 o'clock this afternoon.

(The statements and statistical material referred to are as follows:)

THE STATES ARE DOING A JOB—AGAINST MENTAL ILLNESS

By Hon. Sidney S. McMath, Governor of Arkansas

In June 1949 I attended the Forty-first Annual Meeting of the Governors' Conference in Colorado Springs. From the opening day of that conference, the problem of how the States could provide better treatment for the mentally ill was paramount. At the close of the conference, the 43 governors present adopted the following resolution:

"Mental hygiene and the care and treatment of the mentally ill create some of the most important social and financial problems confronting the States today * * * The Council of State Governments, therefore, is directed to make a comprehensive, factual study of the activities and facilities in this field and submit its report to the governors of the several States prior to the next annual meeting of the Governors' Conference."

The final report, prepared after 10 months of painstaking research and with the full cooperation of every State in the country, gives a crystal-clear picture of some of the surmountable and insurmountable problems facing the States in caring for the mentally ill. These findings have been carefully summarized into 40 major recommendations by the Council for State Governments. I would like at this time to summarize for you some of the most outstanding recommendations of this report and advise you as to the action taken by the several States since these recommendations were made.

Although each and every recommendation made by the council was exceedingly important, there were two general, major recommendations which were basic and upon which rest the actual solution of our national mental health problem. These two basic recommendations dealt with the problem of (1) developing proper facilities for the care of our mentally ill; and (2) the improvement of the treatment received by our psychologically sick citizens.

I think that we all know that our facilities for the mentally ill in this country are, in general, inadequate, outmoded and antiquated. The findings of the council further enhance this distasteful picture. Of the hospitals studied, 73

percent reported some degree of overcrowding, while 43 percent reported overcrowding in excess of 20 percent. This, of course, is an intolerable situation; however, bad as it is, it is far worse when coupled with the fact that 40 percent of these overcrowded hospitals are made up of antiquated, fire susceptible buildings of from 50 to 100 years of age or older.

In fact, this situation is so serious that it is estimated that the States will have to construct at least 326,065 new mental hospital beds during the next decade if they are to rehabilitate their presently run-down and antiquated facilities and create enough additional beds to house their present and potential case loads.

The recommendation that this situation be corrected presented a staggering challenge to our States, for at a minimum cost of $5,000 per bed, this building program would entail an outlay of more than a billion and a half dollars in the short period of 10 years. The States, however, have accepted this problem and have set about to solve it. Many of the governors have gone before their citizens and outlined programs to finance large and far-reaching, tax-supported construction programs for the benefit of their mentally ill. In every State in which the issue was so presented, the people voted overwhelmingly in favor of increased taxation to provide new and additional facilities for the psychologically sick. Since 1949, the various States of this Nation have allocated from their treasuries more than $300,000,000 for new mental hospital construction. Arkansas alone, with a far lower per capita income than most States, has during the lst 3 years, paid out of her tax receipts some $3,000,000 for the construction of some 542 mental hospital beds and related auxiliary buildings.

By and large, most of the States have done as much as they reasonably can to solve this vitally important problem; however, they need and must receive additional construction funds if they are to bring their mental health programs up to modern acceptable standards. As the citizens of the various States cannot, through taxation, support an adequate building program and still furnish their hospitals adequate funds for maintenance and operation, it is imperative that Federal construction funds be made available to the States at a very early date on an easy to match basis.

As treatment in the field of mental health deals with any and all acts and procedures that go to combat the patients' psychological and physical disorders, I have of necessity limited my discussion to the council's findings relative to three major factors which the specialists in the mental health field feel to be most important to the discussion at hand.

These three factors deal with (1) the standard of patient maintenance within our hospitals, (2) the availability of trained professional and subprofessional psychiatric personnel, and (3) the need for research studies into the causation, prevention, and treatment of mental disease.

Although the governors' report was heartening in that it disclosed that most of our mental institutions had changed from lunatic asylums into hospitals for the mentally ill, and had in the process done away with the chains, filth, and inhumane methods of operation that beset many of them even as late as the year 1945, it still showed that our hospitals lacked much in the way of operational funds and that most of them were still forced to operate far below presently recommended standards.

The picture in Arkansas is typical. In 1939, we spent less than $900,000 for operation and construction at our two major mental institutions. In 1950, this item was pushed upward to a total of $4,684,000, or a jump of more than 400 percent in a period of 10 years.

An analysis of the change in per capita operational cost per patient-day in the Arkansas State Hospital in 1939 and in 1950 is particularly revealing. As these operational cost figures include all expenditures for patient care and treatment with the exception of new construction, it brings into the foreground the amount of operational advancement that has been made. In 1939, we spent $206 per year per mental patient, or an average of about 57 cents per day, while in 1950 our per capita expenditures had risen to $604 per year, or a total of some $1.54 per patient-day. While it is true that 40 percent of this increase represents inflated costs, 60 percent represents improved food, clothing, and treatment for patients.

While these advances are heartening and have resulted, in Arkansas at least, in patients receiving markedly better care and treatment in our mental hospitals, it is still imperative that the maintenance appropriations for our mental institutions be increased upwards to a per diem of $2.75 for each patient classed as chronically, mentally ill, and $5 per day for each patient classed as acutely ill. In most States this would require an average outlay of some $3.85 per patient per

day. A cheap price to pay when one considers that the average cost for caring for an acute medical or surgical case ranges upward from $13 a day while the average cost of care and treatment of a chronic physical patient averages somewhat over $9 per day.

While the allocation and proper utilization of operational funds play an unquestionably large part in the over-all problem of treatment for our mental patients, there are other problems which are equally important and which are more difficult for our States to solve. The first of these is our present and probably future lack of trained professional and auxiliary psychiatric personnel.

Although most of our State hospital systems have, within the last 2 years, developed specialized training programs for all levels of clinical personnel, these programs, for the most part, have been established on a somewhat limited basis from funds salvaged from operational appropriations. Arkansas, as well as many other States, has established within its State hospital system a 3-year residence training program for physicians, clinical internships for psychologists, a 3-year training program for psychiatric aides and a dental internship. All of these programs meet the standards as established by the various approving agencies, in spite of the fact that they are operated in a hospital system which can afford an operational outlay of only $1.65 per patient-day. That the expenditure of funds from our limited supply has not been wasted when spent for training purposes is borne out by the fact that during the last 2 years our hospital has increased its discharge rate by 33⅓ percent, decreased its patient return rate by 28 percent, slowed the death rate by 44 percent, and decreased the over-all census of our hospital by 300 patients.

What the Arkansas State Hospital and other such units could do if funds could be made available to properly assist these training programs can only be imagined. As it is doubtful that further funds can be obtained from the taxpayers at a State level to expand these programs, it is essential that the Federal Government allocate funds for this purpose to the various States for their use in establishing or enlarging their professional and subprofessional training programs. Certainly with proper funds and a will to do the job, all of the States could place in effect training programs which would meet the need of their mental health programs. By allocating these funds to the various States, we will eliminate the congregation of highly trained psychiatric personnel to a small group of training areas around the periphery of our Nation and will also by-pass the problem of a gradual national control of our medical training programs.

Up until now I have discussed with you three of the major factors affecting the over-all care and treatment of our mentally ill citizens. I would at this time like to take up the problem upon which all our programs hinge. That problem is the question of doing adequate research in the field of mental health. Although industry and medicine in general have long realized the importance of proper research in their respective fields and have procured funds to make proper studies and investigations, the field of neuropsychiatry has been given little with which to investigate this Nation's No. 1 health problem, in fact, in 1949 only 2 cents were spent on mental health research for every $1.38 spent in medical research, and each $2.08 spent in industrial investigation and study. Last year, in fact, while $500,000,000 was being spent in the care and treatment of the mentally ill, only 25 cents per patient was being expended to discover methods of preventing and treating mental illness. Certainly this is an extremely small amount to spend on a disease that will incapacitate one out of ten of our citizens at some time in their life and that claims more victims daily than cancer, tuberculosis and poliomyelitis combined. Here, as in the case of all other recommendations made by the Council of State Governments, the States have attempted to expand their programs and develop proper research facilities; however, here again the States have run into the problem of procuring sufficient revenues with which to carry on such activities, for they have found that research is costly from the standpoint of personnel, time and equipment and that research cannot be done on a piecemeal or half-hearted basis. As a result, most States have made only token attacks upon this problem. It is our belief that with proper fund allocations, all States could, by using their entire medical-scientific facilities, embark on well-organized and properly oriented research programs which would eventually result in the discovering of many new methods of control and treatment of this dreaded and incapacitating disease. As the States have little or no opportunity to procure additional funds from their citizens at this time, it behooves the Federal Government to make funds available to finance organized research programs at the State level. Here again the dissemination of such funds would encourage a greater number of skilled men to enter into advanced studies and investigation

and would eliminate the centralization of research to a few chosen spots in our country, for research, unlike tried and true doctrines, prospers and develops more rapidly when men of all cultures and classes pit their imaginations and drives against the many and varied facets of the problem at hand.

In my foregoing presentation, I have made every effort to cite the mental-health program as we at the State level see it and have attempted to present to you what the States can and will do to solve this large and devastating national problem. I would now like to recommend to you a solution.

Since 1946 the National Institute of Mental Health has stood ready to financially assist the States with their mental health problems; however, this organization's funds have been so limited that in the field of research alone, it has been able to approve only 66 of the 257 research projects recommended by the National Mental Health Advisory Council since the year 1947. I have cited research as an example; however, the institute's activities have been equally restricted in grants-in-aid for training and in other fields of endeavor. Certainly the States need Federal assistance in their campaigns against the ravages of mental illness; however, it is obvious that these cannot be procured unless the National Institute of Mental Health receives additional funds for distribution at State level.

We in Arkansas are vitally opposed to the centralization of this Nation's medical activities; however, we realize that Federal funds must be distributed by a central agency if they are to be efficiently and effectively used. If the question of centralization and socialization of our mental-health program prevents this organization from receiving funds for distribution to the States, this problem can and should be controlled by proper wording of the appropriation allocating the funds to this organization.

I solemnly assure you that we at the State level will continue to exert, as we have for the past 5 years, the maximum financial effort to provide decent care and treatment for our psychologically sick citizens; however, we must have the financial support necessary to effect a return of these mentally ill people to the status of useful and productive citizens. If given adequate funds, the National Institute of Mental Health can provide the weapons we need in our war against our greatest national enemy—mental illness.

In closing, let me state that I have always believed it unfortunate that fear and prejudice have for so long a time been allowed to hide the true scope of our Nation's mental health problem from its people, for these factors have long prevented our mentally ill from receiving the care and treatment they have needed and deserved. I can at this time, however, see no reason to let these unfortunate happenings of the past retard us in our present and future handling of this problem, for although the clouding influences of prejudice and superstition have constantly raised their heads to retard us, the issues involved have now, for the most part, become clear and we can now attack them both openly and effectively. Now at a time of national crisis, when we are spending billions of dollars to develop and protect our national resources, it would appear only consistent for us to spend a few million dollars to protect, salvage, and develop our basic human resources as well.

Certainly we can develop and protect neither our human or natural resources if we neglect the mental health of our people, for mental disease is a costly disease from the standpoint of our culture, economy and the very safety of our Nation.

With these thoughts and recommendations in mind, I wish to go on record in support of the citizens' budget of $24,000,000 for the National Institute of Mental Health for the fiscal year 1952.

Research and Training—A Businessman's View

(By Ben May, Mobile, Ala., member, National Mental Health Committee; member, National Advisory Mental Health Council)

I have heard people say, "our country is just about bankrupt because it owes over $290,000,000,000." The interest on this sum is around $6,000,000,000 annually, or a bit less. This large sum for annual interest becomes less frightening when we read that our country is rich enough to spend over $8,000,000,000 a year for alcoholic beverages, or to spend over $4,000,000,000 annually for tobacco products. But what does frighten or worry a sensible person is the constant upward trend of the national debt. I wish to suggest how that tendency can be overcome, in part, and also how we can increase our national wealth and income as a counterbalance to our large national debt.

Government is like business in many ways. Thus, you can tell little about the worth of a country or the worth of a business if you check only the liabilities of that country or business. General Motors owes hundreds of millions of dollars yet we see that the company is decidedly solvent when we contrast its assets against its liabilities. General Motors is very solvent not only because it has assets which more than offset liabilities, but it has earning capacity and brains.

A railroad may be operating at a deficit and it may be insolvent, and yet by intelligent spending, plus intelligent economies, that railroad can achieve solid solvency. In fact, a railroad which practices economies but fails to do some intelligent spending will probably become insolvent. I have had several railroad presidents corroborate this very statement. For example, intelligent railroad management seeks to stop waste, but it also seeks to practice intelligent spending or even what might be termed "intelligent waste." Thus it may pay a railroad to scrap, or sell at semijunk prices, a lot of new steam locomotives and then purchase modern Diesel locomotives which will pay for themselves in a short time and achieve so much economy of operation that the bankrupt railroad can change an operating deficit into a satisfactory operating profit. A large percentage of American railroads run at a profit today only because their management had the courage to spend whenever spending intelligently could cut expenses or increase profits.

We need the same type of thinking in Government and one of our very big chances of economy and increased revenue for our country is intelligent spending on medical research. When, because of illness, millions of our people lose hundreds of millions of working days each year, then the Nation loses a lot of its productive capacity and it is only that productive capacity which can give us sufficient wealth and taxable income to keep the country solvent.

The above statement is all the more true when we remember that if a man is sick today, the country not only loses the benefit of his productive labor but it often pays the expenses of his illness.

About 600 years ago a great plague killed between one-fourth and one-third of the peoples of Europe. By most people, that plague was accepted as the will of God. Yet today we know that a plague is not the will of God and we can control great epidemics because we now have the necessary knowledge and that knowledge is power.

What has been done with plagues can likewise be done with most of the heart diseases, and also where cancer and many of the mental diseases are concerned. These diseases keep many men out of the military services, and they are responsible for still other men being discharged from the services. These ills keep millions of people away from work and they require hundreds of thousands of able-bodied people to act as nurses and caretakers in different types of hospitals. These diseases prevent needed production and they cost our Government much money. I say these diseases cost our Government money not merely because of lost taxes on decreased profits or earnings by business which profits are taxed—but also because when death occurs the Government makes certain payments to the families of those protected by social security. There are several varieties of these payments but I will mention especially that upon the death of a man covered by social security the Government aids in the support of each child until it reaches the age of 18.

Also a fairly large percentage of our citizens are veterans and now with more of our youth going into the services there will be still more veterans. The country cares for its veterans and that means we must spend increasing sums for pensions and hospitalization of veterans or members of their families—unless we learn how to cure them more quickly or keep them well. We can obtain the needed cures and preventatives with speed only as we aid the medical research workers. A plea for more funds or sufficient funds for medical research is in no way a plea for waste by the Government. Rather is it a plea for an intelligent and vital economy measure in the same sense that it is deemed wise by railroad management to purchase Diesel equipment in order to reduce operating expenses.

Please note especially that we do not advocate that the Government go more deeply into the business of research in its own laboratories. The bulk of Government funds appropriated for medical research are dispensed or handled in the same way that the Rockefeller Foundation, the insurance companies, various large corporations, the American Cancer Society and the American Heart Association, all handle their funds. That is, a study is made of the various applications for research aid and then grants-in-aid are made to those projects considered to be most promising. The great bulk of research work is not done by people directly employed by the Government nor in Government institutes. The work

is done in various universities and incidentally, this is where a great deal of the research for our military is taking place.

During the last half century American businessmen have taken over the applied scientists and the engineers in an effort to reduce waste, cut costs and obtain better products—always with the end objective of more profit. We only ask that our Government do what business is doing. I am convinced that if the du Pont Co. owned this country and wanted the maximum profit and efficiency from it, it would probably put expenditures for medical research ahead of expenditures for industrial research or expenditures for agricultural research. I merely ask that the Government make sufficient grants-in-aid to our various capable research scientists so that their discoveries may decrease the cost and losses because of illness.

I agree with those who feel that our citizens ought to do this job but let us think a moment. Sufficient citizens ought to volunteer for the Army but instead you find it necessary to draft them because you can't afford to wait for voluntary action.

Business will conduct industrial research because it can patent an idea and profit thereby or it may make money out of that idea in some other way, but in medical research it is the custom not to patent the basic discovery and therefore no profit is made by individuals. Thus Dr. Fleming did not attempt to patent his discovery of penicillin but after his basic discovery was made and a chance for profit became apparent then private business took over and did a fine job carrying on this type of research with profit as a motive.

It is our private industries which have given us aureomycin, terramycin, and other great antibiotics but please note that our pharmaceutical industry only acted after a nonprofit basic medical research worker had made a discovery which showed that a profit could be achieved by following up the newly proven ideas. Incidentally, when that profit is achieved the Government gets the lion's share.

When you look to private individuals to carry on medical research please remember that the great gifts are much more difficult to obtain today than formerly. Prior to World War I, business people could accumulate great wealth for themselves and their heirs because what they earned stayed with them after taxes.

But today most of the income of the rich goes into the Government Treasury and so we must ask that the Government undertake a task which formerly some very rich man might have performed in lieu of paying income tax.

It is research which virtually defies the law of gravity. That is, lets us eat our pie or cake and have it too. For example, the amount of gasoline now obtained from crude runs is four times as great as it was 40 years ago, while at the same time the quality of the gasoline has increased. This means that with one-fourth as much crude, our country gets the same amount of gasoline and more than four times as much mileage as it did from the crude 40 years ago. I mention this as an example of what research can do in industry, and it can effect the same type of savings where health is concerned. Health is happiness to a large extent but in our case health is also wealth in a very literal sense.

"Research and Training"—Needs for 1951–52

(By Robert Knight, M. D., Stockbridge, Mass., medical director, Austen Riggs Foundation)

Although I have been a practicing psychiatrist for a number of years, having been clinical director of the Menninger Foundation in Kansas, before coming to the Austen Riggs Foundation, this is my first appearance before a congressional committee.

I want, therefore, before presenting the reasons why I support the citizens' budget of $24,000,000 for the National Institute of Mental Health for the fiscal year 1952, to express my heartfelt gratitude, and that of many of my co-workers, to the United States Senate for the support it has given to mental health work on the State and private level through grants-in-aid for research, training, and clinics, since passage of the National Mental Health Act in 1946.

It is no exaggeration to say that these grants have sparked and stimulated more projects in the past few years than in the entire history of our medical care program for the mentally ill. In more than half the States, Federal aid made it possible to start a program where none had existed before. For is it not heartening that 333

mental hygiene clinics, aided by Federal moneys and scattered over the four corners of this great country, gave 500,000 hours of psychiatric service to 140,000 sick people last year?

In the mental health research field, in which I am most interested, your appropriations in the first 3 years of the act gave aid to 66 important research projects recommended by the National Mental Health Advisory Council. In the training field, during this same period, hundreds upon hundreds of psychiatrists, psychiatric social workers, clinical psychologists and psychiatric nurses were trained through Federal grants. Since 1949, this program has broadened to include grants to 42 medical schools in 25 States for undergraduate training in psychiatry and graduate training in neurology.

If this committee could visit only the State of Massachusetts, it would see impressive evidence on all sides of the stimulus the Federal mental health program has given both State and private mental health endeavors. For example, in 1950 Government grants made possible expansion of training programs in all the psychiatric disciplines at Boston University, Clark University, Harvard University, Worcester State Hospital, the Boston Psychoanalytic Society and Institute, Judge Baker Guidance Center, Putnam Children's Center, Simmons College, Smith College, Austen Riggs Foundation, and the Advisory Commission on Psychiatry to the Massachusetts Department of Health. In addition, graduate training stipends went to train 64 sons of Massachusetts in psychiatry, while research fellowships and grants went to workers at Harvard, Massachusetts General Hospital, Judge Baker Guidance Center, McLean Hospital, and the Austen Riggs Foundation.

These research and training grants must be expanded in the years to come in order to cut down the back-breaking cost of maintaining over a million mental patients in Federal, State, and private hospitals $736,000,000 in 1950.

Primarily, this must be accomplished through intensified research into the cause and nature of mental illness. We know very little about the nature of mental disease—there isn't even a basic body of knowledge in physiology and chemistry to serve as a foundation for this research. We don't know enough about the brain. We perform lobotomies, in which we cut through the frontal part of the brain, without knowing precisely how and why we get the results we do. We get some patients out of mental hospitals in half the time it used to take through administration of shock therapies, but we don't know exactly why shock has an effect on the mentally ill patient. We don't know enough about what constitutes the earliest possible detectable symptoms of emotional disorders—we would like to be able, like the cancer or heart specialist, to identify a set of symptoms and begin treatment at the first signs of the illness.

We spend a pitiably small amount for research in mental illness. In the latest year for which complete figures are available, 1947, the total sum spent in research by Federal, State, and private institutions, was $3,300,000. This is only 2 percent of the Nation's medical research, and a bare fraction of the $376,000,000 we spent in 1950 for hospital care of the mentally ill.

The Budget Bureau proposes that only a little in excess of $2,600,000 be allotted in 1952 for direct research by the Institute, plus project grants. The citizens' budget asks that this sum be increased by a million-and-a-half dollars so that we can follow up some of the promising leads turned up in the past few years. Research is a continuing, expanding thing.

For example, in my own State of Massachusetts, in Boston, there has been a promising project carried on for a number of years by two psychiatrists of high reputation, with a number of co-workers. This research project studies the nature of psychotherapy, one of the aims being to design ways and means to shorten the duration of psychotherapy. At present most forms of psychotherapy take a very long time and entail, therefore expenses prohibitive to the great majority of American people This project aims to modify psychotherapy so that it may be available to a great many more people than at present can afford it. This work has been carried on very slowly, all the participants volunteering their time. Last year the USPHS Mental Health Council approved this project for support, yet the project could not be supported because the USPHA Mental Health Health Council did not have enough money for all of its projects.

We must support the research projects at present in existence and multiply their numbers manifold, in order to widen our means of treatment and its horizon. Particularly, briefer methods of psychotherapy, application of psychotherapy which has proven successful in the neuroses, to psychoses, and particularly to the most pernicious one—schizophrenia—must be explored widely by many investigations. Ether and histamine injections, promising new treatment method,

need further treatment and study. We need to make investigations into the nature of the endocrine system and its relation to psychological function: this is an area which is bound to yield many leads to the medical explorer, and bound to reveal the nature and treatment possibilities of physical illnesses which are of psychological origin. Visiting the Topeka State Hospital a half year ago I was eye witness to the results of a magnificent experiment: a backward State hospital which used to have a few attendants and three or four doctors, was staffed a year and a half ago by a large group of well-trained doctors, psychiatrists, psychologists, social workers, and attendants. The community was induced to take an interest in the work of the hospital, people who had been on the back wards in their beds for years have been moved out into the open air and given opportunity to do constructive work under the leadership of recreational and occupational therapists. The hospital is now discharging more patients than it admits, a state of affairs not paralleled anywhere in the country. Experiments of this sort must be undertaken all over the United States; they decrease the expenditure of the Nation and increase its productive work capacity in the long run, by a much greater amount than the investment they require. Last but not least, we need basic research to increase our tested knowledge about the physiology and psychology of the human being, because without an increased store of such basic knowledge our search for improvement of treatment methods and our quest for new treatment methods, is bound to bring diminishing returns. Without basic research yielding tested knowledge there is no successful development of applied science, and without this there will be no diminishing of the tremendous cost to the Nation of the hospitalization of mental patients, nor any saving of the waste of manpower which mental illness requiring long hospitalization always involves.

Our need for psychiatrically trained personnel is equally great. Our national shortage of psychiatrists persists. There are 5,856 psychiatrists in the United States today, many of whom are administrators or retired. Of these only 3,598 are certified by the American Board of Psychiatry and Neurology. There is an average ration of one psychiatrist to every 387 patients in our mental hospitals—a shockingly low ration.

Yet, to fill the gap between this small number and the 20,000 we need, we are training only 450 psychiatrists a year. This is particularly tragic because hundreds of medical school graduates who want to go into psychiatry, cannot because of the lack of facilities. A few years ago there was a dearth of applicants in psychiatry—you had to beg a medical student to go into the field. Now we have this enormous interest, stimulated to a great degree by the expansion of psychiatric training in the medical schools as a result of your appropriations, and we have to turn them away.

The Armed Forces are now taking, and will take in increasing numbers in the years to come, many of our most promising young psychiatrists. Psychiatrists are doing a magnificent job in Korea—they are taking their machines and their techniques up to the front lines and returning to combat duty 80 to 90 percent of the soldiers who suffer war neuroses. However, in order to do this kind of job, a large supply of psychiatrists is needed. We have stripped the home front to send these psychiatrists to Korea. In order to supply the needs of the Armed Forces abroad and maintain our mental health services at home, we must accelerate our training programs for young psychiatrists. In pointing up the gravity of the present shortage, Gen. Paul Hawley, former Chief Medical Director of the Veterans' Administration, recently stated that to do its job in first-class fashion, the VA needs now the full-time services of every competent psychiatrist available in the country.

The shortages in the allied psychiatric disciplines are even more severe. We have only 1,500 clinical psychologists and need 15,000; we have only 1,000 psychiatric social workers and need 15,000; we have only 5,500 psychiatric nurses and need a minimum of 47,000.

In the sum, the greatest needs on the State and private level are accelerated research and more trained personnel. The States are burdened down with the tremendous costs involved in maintaining hundreds of thousands of mental patients; in a number of States, a third of the operating budget goes to provisions for the mentally ill. We want no more money for maintenance. What we want is the stimulus and leadership of the National Institute of Mental Health in providing the research and personnel tools, so that we can cut mental illness down at the source—before it becomes a back-breaking drain on every State and private budget.

The Importance of the Program of the National Institute of Mental Health in Civilian and Military Medicine

(By Franklin G. Ebaugh, M. D., member, National Mental Health Committee, medical director, Colorado Psychopathic Hospital, professor of psychiatry, University of Colorado Medical School, neuropsychiatric consultant (World War II), colonel, Medical Corps, AUS)

I feel that the importance of the program of the National Institute of Mental Health can be most clearly presented to this Senate subcommittee by considering five aspects of the problem facing us in civilian and military life today:

1. The cost of a psychiatric casualty to the military is evidenced by the fact that disability from emotional upset is of more frequent occurrence than disability from any other cause, with the exception of actual combat injury.

2. The cost of a psychiatric casualty to the citizens of the United States as a whole can be judged both from a financial standpoint and from the consideration of the effects of psychiatric disability on civilian life.

3. Resistance of the individual against emotional breakdown under military stress or civilian disaster can be increased through such a program as that advocated by the National Institute of Mental Health.

4. The ability to deal with the problem of the psychiatric casualty in military service can be increased by an effective program within the National Institute of Mental Health.

5. Preventive psychiatry, both civilian and military, will be greatly strengthened by the program as budgeted by the National Institute of Mental Health.

In regard to the first point, the problem of the psychiatric casualty in our Armed Forces was one of major importance in World Wars I and II, and is an equally great one in our fighting forces today. In World War II there were approximately 1,000,000 neuropsychiatric admissions reported, representing about 850,000 individuals. About 40 percent of these admissions to hospitals for neuropsychiatric disorders were among the troops overseas; about 60 percent were among the troops on duty in the United States. In April of 1945 the peak load of neuropsychiatric patients in all Army hospitals reached 49,315. Furthermore, for the total overseas forces in 1944, the admissions for wounded were approximately 86 per thousand men per year; and the neuropsychiatric rate was 43 per thousand men per year. The total number of certificate-of-disability discharges for neuropsychiatric conditions was 387,000, representing 37 percent of the certificate of disability discharges for all causes between December 7, 1941, and July 26, 1946. In addition to all this, there were 1,846,000 men rejected by the armed services because of neuropsychiatric disorders, among approximately 15,000,000 men examined. Of all the men examined, it is thus evident that 12 percent were rejected because of neuropsychiatric difficulties; and of all the men rejected, 38 percent were rejected on the basis of neuropsychiatric disorders.

It thus becomes evident that research and training directed toward improving the over-all mental health of the total population is of great significance if we are to increase the resistance to emotional breakdown in time of war or disaster. Moreover, the problem of the neuropsychiatric casualty in the military service is of great concern, since it has become evident to us that disability from emotional upset is of more frequent occurrence than from any other cause, with the exception of actual combat injury.

Our second point should be crystal clear also: that money spent by the National Institute of Mental Health can, in the long run, mean tremendous direct savings to the citizens of this country in regard to the actual cost involved in caring for the psychiatric military casualty. Each hospitalized service-connected neuropsychiatric patient costs the Government an average of about $30,000 during his lifetime. Over one-half of the total population of the Veterans' Administration hospitals are neuropsychiatric cases. It has been said that neuropsychiatric casualties are 16 times more likely to result in permanent disability than are any other types of illness. With factors like these in mind, it is good business and sound government to support a program which stresses research, training, treatment, and prevention in the field of mental health.

The third point which I wish to make is that the activities of the National Institute of Mental Health are directed toward community mental health, and in being so directed, will serve to increase the strength of the individual and to increase his resistance against emotional breakdown under military or civilian stress. In the past, mental illness has been considered an "all-or-none" disease. The sick person was looked upon as being either sane or insane. We have come to

realize that this sharp distinction is not valid, and that many persons living more or less normal lives in more or less normal communities can profit from psychiatric help. But we lack definitive knowledge about the epidemiological aspects of mental disease. We possess little definite knowledge of the causative factors in the psychoses. We need facilities for research on the healthy and normal personality development in children. We need to know more about normal growth and the ways to maintain mental health, and to know more about the social and cultural forces of everyday life. We need to know more about the many serious social problems facing us today: crime, delinquency, divorce, and alcoholism, to mention a few. The program outlined and the budget sought by the National Institute of Mental Health will help us increase this knowledge by the twofold approach of a study of the individual functioning in his environment.

The budget asks for an $8 million appropriation for construction grants for research and training institutes connected with mental hospitals and medical schools. The construction of such psychiatric facilities throughout the several States will allow us to work for positive mental health as well as to treat potential psychiatric patients before their symptoms become fixed and their condition irreversible. Such construction grants would allow the erection of psychiatric institutes in the local community and would be a significant contribution to the mental health of the community. We must begin to reach people at the level of their living, and to help them with their problems of living within their community and within their family. To cite an individual example with which I am personally familiar, the University of Colorado School of Medicine is responsible for the medical education within the entire Rocky Mountain empire, accepting students from Colorado, Wyoming, New Mexico, Arizona, and Montana. The construction grants requested by the National Institute of Mental Health would allow us to teach the care of the total patient—physical, mental, and social. Medicine today studies and treats the whole man, and we must build facilities to allow psychiatry to increase its knowledge of the patient as a person. Psychiatry cannot continue to progress without integrating its knowledge into basic and clinical medicine; and moreover, psychiatry has developed concepts and techniques which are of great value to the total medical treatment of patients. In order to do such integration and such teaching, we must have buildings which will allow us to study and to treat both children and adults, both in-patients and out-patients, and which will provide ample space for basic and clinical research.

Further, we are at present tremendously handicapped, not only by being financially unable to build additional psychiatric institutes, but also by the lack of facilities for training personnel in the care of the mentally ill, and by the shortage of staff personnel for such training. The research and training fellowships requested by the National Institute of Mental Health and the budgetary appropriations for technical assistance to the various States by the National Institute of Mental Health are important factors in meeting this major lack. The building of psychiatric institutes in various medical centers throughout the country would be a major step in expanding present training opportunities. It is also important that these training centers be distributed geographically so that they will be within a reasonable distance of prospective students in all areas.

This brings us to the fourth point which I wish to discuss: that our ability to carry out an effective treatment program within the military service is essential and can be greatly increased by the proposed plans of the National Institute of Mental Health. Psychiatric problems resulting from combat stress display an unusual degree of fluidity of their symptomatology. New symptoms appear and disappear with rapidity. However, as time goes on, without treatment, a more stabilized and more crystallized illness results. It is thus important in the actual treatment of an emotional illness in combat to treat as promptly and as near the combat area as is feasible. When war neuroses are so treated, it is possible to return about 40 to 60 percent of such casualties to active combat duty, and an additional 20 to 40 percent to noncombat duty, in the forward areas. This, of course, means that we must have trained a sufficient number of psychiatrists that treatment can be available in the combat zone hospital. The appropriations of the National Institute of Mental Health will provide for the adequate training of young physicians in the field of psychiatry. It cannot be overstressed how great is our need for both training fellowships and training facilities in the field of psychiatry. On the basis of our past military experience, it is equally evident that a far greater effort must be devoted to the field of preventive military

psychiatry. The important functions of giving counsel and advice regarding the attitude of military soldiers toward their job, the important function of minimizing environmental stress which tends to impair the efficiency of the soldier, and the important goal of increasing environmental supports to the personality of the soldier are all necessary preventive functions of military psychiatry. If we can provide psychiatrists who have had training and experience in evaluating personality-environmental relationships, we can then point out the why's and how's of constructive preventive effort. The work of the National Institute of Mental Health, its research and training grants, its demonstrations and in-service training, and its expansion of the teaching of subjects related to mental illness all serve the goal of saving money and manpower in our armed services.

Fifth and last, although the primary aim of treatment is to restore the soldier to combat duty, it is sometimes necessary to work toward the goal of rehabilitating the soldier for a productive civilian life. Further, a constant goal in civilian life is that of providing children the opportunity to develop into emotionally healthy adults and providing adults the opportunity for satisfying and secure living. Such rehabilitative and preventive goals can be achieved through the use of skilled personnel—psychiatrists; psychiatric nurses; psychiatric social workers; clinical psychologists; occupational, recreational, and vocational therapists; and trained attendants. We must provide training for such people; we must build new centers; we must strengthen existing training facilities. All of this is possible only under such a program as that proposed by the National Institute of Mental Health.

In addition, the preventive aspects of mental health require public orientation to make mental hygiene concepts available to general physicians, ministers, teachers, lawyers, and all the others who serve the public and who require an understanding of the emotional factors involved in interpersonal relationships. The training activities and the technical assistance programs of the National Institute of Mental Health strive toward such goals.

The budget requested by the National Institute of Mental Health makes good sense economically, makes good sense psychiatrically, makes good sense militarily, and makes good sense in its long-range goals for the community health of the country as a whole. This is evident when one considers again these five factors we have discussed:

1. The frequency of psychiatric casualties in military service.
2. The cost of caring for such psychiatric casualties.
3. The need to strengthen both the community resources and the individual resources of our citizens in times of civilian and military stress.
4. The need for effective treatment of neuropsychiatric casualties in the military service.
5. The goals of preventive psychiatry in both the community and the military.

A Note on the Scope of Mental Illness

The following facts taken separately have been well known for some time to those familiar with the field of mental health. Taken together, however, they add up to the startling conclusion that considering all patients under treatment for all sickness on any one day, mental and emotional illness affect more people than all other illness combined.

This is borne out by the following three points:

(1) 55 percent of the patient-days spent in all hospitals are spent by the totally disabled mentally ill in the mental hospitals;

(2) 40 to 60 percent of the patients in general hospitals suffer from conditions either caused by or intimately related to emotional disorders;

(3) 40 to 60 percent of the patients seen by physicians suffer from conditions either caused by or intimately related to emotional disorders.

Thus it is seen that roughly 65 percent of all people who are ill and under treatment on any one day, suffer from mental and/or emotional illness (4).

Yet, in spite of this astonishing fact, only 2 percent of the Nation's medical research (5) and 4 percent of the curriculum hours in our medical schools are devoted to psychiatric problems (6).

REFERENCES

Point (1) Journal, American Medical Association, Hospital number, May, 1950, table D, p. 26, Summary of Hospital Data According to Type of Service:

Average daily census, nervous and mental hospitals	675, 096
Days per year	×365
Patient-days spent in mental hospitals	246, 410, 040
55 percent of the total patient-days in all hospitals	447, 107, 115

Point (2) Bulletin of the Menninger Clinic, vol. 12, No. 1, January 1948, p. 5, reference 13, Ebaugh, F. G.: The Care of the Psychiatric Patient in General Hospitals. Chicago, American Hospital Association, 1940: "40 to 60 percent of cases in general hospitals are primarily psychiatric."

Point (3) There Is Something You Can Do About Mental Health, by William C. Menninger, M. D., p. 1 (by the National Committee for Mental Hygiene):

"At least half of the patients of physicians of all types have complaints that are caused by, or are intimately related to, emotional disorders."

"Bulletin of the Menninger Clinic, vol. 12, No. 1, January 1948, p. 5, reference 12, Rennie, T. A. C., quoted by Rymer, C. A.: Psychiatric Education. Am. J. Psychiatry, 102: 548–551, January 1946. Kirk, N. T.: Bull. U. S. Army Med. Dept., 78: 40, July 1944. Halliday J. L.: Psychroneurosis as a Cause of Incapacity Among Insured Persons. British Med. J., Supplement, p. 85, Mar. 9, 1935 and p. 99, Mar. 16, 1935. Strecker, E. A.: Fundamentals of Psychiatry. Philadelphia, J. B. Lippincott, 1942, p. 4. Strecker, E. A.: Psychiatric Education. Mental Hygiene, 14: 797–812, Oct. 1930. Clarke, E. K.: Old Problems in New Settings. Journal-Lancet, 63: 129–131, May 1943. Cavanaugh, J. R.: The Psychosomatic History. Med. Ann. of District of Columbia, 15: 325–329, July 1946. Weiss, Ed.: Psychosomatic Medicine and the General Physician. Delaware St. Med. J., 13: 181–184, Sept. 1941. Wearn, J. T.: The Challenge of Functional Disease. J. A. M. A., 134: 1517–1520, Aug. 30, 1947. Hathaway, S. R.: Multiphasic Personality Inventory. Modern Hospital, 66: 66–67, Apr. 1946. Harrison, F. M.: Role of the Emotions in Disease. Delaware St. Med. J., 19: 79–83, May 1947."

"There has been a wide variation in estimates of the incidence of 'functional' disorders among all patients consulting physicians: Rennie 50 percent; Kirk 50 percent; Halliday 33 percent; Strecker 50 percent to 70 percent; Clarke 49 percent of pediatric practice; Cavanaugh 33 percent; Weiss 35 percent; Wearn 50 percent; Hathaway 30–60 percent; Harrison 60–70 percent."

Point (4) The only computable group of individuals, sick from all forms of illness, are those patients who are:

1. In hospitals.
2. Who consult physicians outside hospitals.

1. The hospital census is divided, roughly, as follows:

	Percent
Mental	55
General	35
Other	10

Since all of the mental and one-half of the general hospital patients are patients with mental illness, it is computed that around 72.5 percent of the patient-days in all hospitals are accounted for by mental illness. This is a conservative estimate, inasmuch as an undetermined number of mental patients in the "other" types of hospitals, have not been included in this computation.

2. The other group of individuals who are ill, are those who go to physicians outside hospitals—40 to 60 percent of these are estimated to be suffering from mental and emotional illness of some form or degree.

The mean percentage of these two groups indicates that a little more than 65 percent of all people who are ill and under treatment on any one day suffer from mental and/or emotional illness.

This computation, of course, does not take into account people who are ill but not under treatment at all. It is estimated that there are 8½ million mental patients in the United States and yet only a million pass through our institutions each year. Only a part of the remainder would consult physicians during a year.

Thus, the complete scope of mental illness is even larger than here indicated.

Point (5). The President's Scientific Resources Board reported in 1947, that about $110 million yearly was being spent on all medical research.

A survey made by the National Committee for Mental Hygiene in 1948, indicated that about 2.9 million was being spent in research for mental health (George S. Stevenson, M. D., Survey of Research in Mental Institutions, National Committee for Mental Hygiene, March 1948).

Point (6). "Bulletin of the Menninger Clinic, vol. 12, No. 1, Jan. 1948, p. 11, quoting Ebaugh, F. G. & Rymer, C. A.: Psychiatry in Medical Education, New York: Commonwealth Fund, 1940, pp. 14–18."

"Of approximately 5,000 hours in the 4-year medical school curriculum, only 1 to 5 percent of the hours are allotted for training in psychiatry. The higher figure might be sufficient, provided that psychiatric orientation permeated the teaching in other subjects."

Figure V, p. 12, Bulletin of the Menninger Clinic, cites "4 percent of 5,000 hours" in medical school curriculum devoted to training in psychiatry.

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Purpose: To mobilize citizen support for Federal and State legislation to reduce the toll exacted by mental illness in America—through research, community services, the training of desperately needed psychiatrists and allied personnel, the construction of facilities for research and training, and facilities to relieve the shocking overcrowding of patients in our antiquated mental hospitals.

Cost of hospital care for the mentally ill in the United States

[In millions of dollars]

	Grand total, tax-supported and private, maintenance and capital construction [1]	Private, maintenance	Tax-supported, maintenance	Tax-supported, capital construction
1950	737	45	[2] 506	186
1949	551	43	[3] 444	64
1948	486	39	[3] 40	[4] 46

[1] The over-all figure of $737 million for cost of mental hospital care is a conservative amount because:
(a) Construction costs for 1950 from 11 States are not available and would raise the figure by an unknown amount, probably around $5 million.
(b) 1948 maintenance costs from 11 States were used in the 1950 figure. 1950 actual statistics, if available, would raise the figure here given by an unknown amount, probably several million dollars.
[2] Includes "Other Federal" as well as veterans; that is, Army, Air Force, Navy, U. S. Public Health Service, merchant marine, and drug addiction. Bureau of Indian Affairs, miscellaneous other Federal Government hospitals.
[3] Includes veterans, but does not include "Other Federal."
[4] Does not include veterans, or "Other Federal," or private construction, but only that for State hospitals as given on p. 12, Mental Health Statistics, June 1950, National Institute of Mental Health, U. S. Public Health Service, Bethesda, Md.

Maintenance expenditures of mental hospitals in the United States [1]

[In millions of dollars]

	Total	State	Veterans	Other Federal	Private
1950	551	[2] 360.4	121.6	[3] 24	[4] 45
1949	487	[5] 325.9	114.6	24	[4] 43
1948	440	302	99	----------	[4] 39
1947	395	264	96	----------	35
1946	292	206	55	----------	31
1945	241	180	33	----------	28

[1] Information received from Veterans' Administration. All figures based on fiscal year July 1 to June 30. This figure is low by an undetermined amount inasmuch as it does not include some neuropsychiatric patients in veterans' general hospitals.

[2] Using 1948 amounts for Arizona, Georgia, Indiana, Kentucky, Maine, Minnesota, Mississippi, North Dakota, Oklahoma, Tennessee, West Virginia, as given in Mental Health Statistics, June 1950, p. 12, National Institute of Mental Health, U. S. Public Health Service, Bethesda, Md. See also p. 106 of The Mental Health Programs of the Forty-eight States, the Council of State Governments, Chicago, 1950.

[3] Computed maintenance cost of mental patients in hospitals operated by the Army, Air Force, Navy, U. S. Public Health Service, Bureau of Indian Affairs, and miscellaneous Federal bureaus.

The hospital number, Journal of the American Medical Association, 1950, gives the total Federal census, 1949, for nervous and mental patients as 59,743. Information from the Veterans' Administration gives the 1949 veterans' neuropsychiatric census as 47,787. Thus mental patients cared for by the remaining group of Federal agencies mentioned above amounted to 11,956.

Annual per capita cost for neuropsychiatric patients cared for in veterans' neuropsychiatric hospitals was $2,000 in 1949, a per diem of $6.58. Mental patients probably cost the other Federal agencies an amount higher than the per diem in veterans' neuropsychiatric hospitals, inasmuch as the numbers are not large enough to set up separate mental hospitals with lower costs. To use the per capita cost of the Veterans' Bureau, $2,000 a year, would therefore produce a conservative computation. On this basis the cost of hospitalizing the 11,956 mental patients in other Federal agencies would be $23,912,000 in 1949.

In the absence of statistics for 1950, the 1949 figure has been used in the above table for the year 1950.

[4] Statistics not available; estimates here given based on figures for 1945, 1946, and 1947, using tabulation of data for those hospitals reporting information on operating costs for the American Hospital Association Directory. A small number of private hospitals are omitted from this computation.

Total maintenance costs increased an average of $57.2 million each year from 1945 to 1950, an increase of $286 million per annum in 5 years.

Tax-supported maintenance costs increased an average of $53.8 million each year from 1945 to 1950, an increase of $269 million per annum in 5 years.

[5] Using 1948 amounts for Arizona, Indiana, Mississippi, Tennessee. See Mental Health Statistics, p. 12 and The Mental Health Programs of the Forty-eight States, p. 106, cited above.

Expenditures for capital construction of mental hospitals in the United States

[In millions of dollars]

	State [1]	Veterans [2]	Total [3]
1950	143.1 (37 States)	42.9	186
1949	64 (43 States)	[4]	64
1948	[5] 46 (All States)	[4]	46

[1] See p. 106, The Mental Health Programs of the Forty-Eight States, a report of the Governors' Conference, by the Council of State Governments, 1950.

[2] Information received from Veterans' Administration, December 1950.

[3] Construction statistics for private hospitals not available, but the number of such hospitals increased slightly from 1949 to 1950.

[4] Not available.

[5] Does not include veterans, or "Other Federal," or private construction, but only that for State hospitals as given on p. 12, Mental Health Statistics, June 1950, National Institute of Public Health, U. S. Public Health Service, Bethesda, Md.

WHY RESEARCH AND TRAINING FUNDS SHOULD BE INCREASED FOR MENTAL HEALTH AS A PART OF OUR NATIONAL DEFENSE PROGRAM

I. What was the military manpower loss during World War II from mental illness? (1).

1. Approximately 15,000,000 men were examined for the Army.

2. Rejected before induction by the Army: More than 1 out of 3, or 38 percent, were rejected because of mental illness (1,846,000 mental, as against 4,857,800 all medical causes).

3. Discharged after induction by both Army and Navy: 52 percent of discharges for ill health were due to mental illness (718,184 mental, as against 1,380,184 all medical causes).

4. 41 percent of the total manpower loss to the Army for ill health (rejectees plus discharges) was due to mental illness (2,564,184 mental, as against 6,232,621 all medical causes).

II. What did this manpower loss due to mental illness mean to the Armed Forces? (2).

1. The manpower loss from mental illness (2,564,184) was—

(*a*) Larger than the total number of men the Army sent to the Pacific theater of operations during World War II (2,171,511).

(*b*) 9 times the number sent to China-Burma-India (253,492).

(*c*) Only slightly less than the total number sent to Europe (3,344,063).

(*d*) Sufficient to man 177 Army infantry divisions (World War II strength, 14,477).

III. How many patients in veterans hospitals are psychiatric cases?

1. Over 50 percent—53,952 in 1947 (3).

IV. How many people in the United States are now suffering from some form of mental illness?

1. About 8½ million people—or more than 1 in every 18 persons (4).

2. It is estimated that 1 out of every 18, or about 8,334,000 people, will be in a mental hospital at one time or another (5)—and 1 out of 10 will need a psychiatrist at some time in his or her life (6).

3. Doctors estimate 30 to 60 percent of complaints of all patients they see are due to emotional disorders (7).

V. How does this affect our national economy?

1. The annual loss to our national economy, including hospitalization and loss in earnings is a billion and a half dollars (8).

2. 124 million man-days were lost in 1946 because of workers suffering fro m some form of mental disorder (4).

3. In 1948 the cost to the States for the operation of mental hospitals was $350 million—and in 1949 Veterans' Administration mental hospitals alone cost $123 million to operate (9).

VI. What can be done to cut these terrific costs and reduce the waste in manpower and productivity?

1. Increase Federal expenditures for research and training in mental health. The National Mental Health Institute had only $1,223,200 for research in 1949–50 (10) while at the same time it cost the Veterans' Administration $123,000,000 to operate hospitals for mental patients who might be cured as a result of more knowledge through research.

(*a*) Research can further the development of shock treatments and other therapies, including psychosurgery (7).

(*b*) Information in the following areas of research, which are part of the program of the National Mental Health Institute, are much needed by Army, Air Force, and Veterans' Bureau psychiatrists:

(1) Basic research on ACTH, cortisone, and other hormones of the endocrine system—which is research on stress in battle.

(2) Research on the relation between fatigue and mental illness may lead to new means of reducing breakdowns from battle stress.

(3) Electroshock and insulin shock, now widely used treatments, need development and refining.

(4) Narcosynthesis, new treatment aid; needs refinement and development.

(5) Ether and histamine injections, promising new treatments, need further testing and study.

(6) Short-time psychotherapy, particularly group treatments, need intensive development so that each psychiatrist can serve more people.

(7) Research on mass hysteria—which is research on war panic.

VII. Do we have enough trained psychiatric personnel for our armed services and civilian population?

1. No. We urgently need to increase the amount of trained personnel through increasing funds for mental health training programs.

(*a*) 15,000 trained psychiatrists are needed—we have only 5,000 at the present time. We are training only 450 a year (11).

(*b*) With only 5,500 nurses in psychiatric hospitals, 1.1 percent of the Nation's nurses take care of 50 percent of its hospital beds (7). The civilian need alone is for 47,000 additional nurses (12).

(*c*) We now have only 1,000 psychiatric social workers and need 15,000 (1).

(*d*) We now have only 1,500 clinical psychologists and need 15,000 (1).

REFERENCE LIST

(1) Bulletin of the Menninger Clinic, volume 12, No. 1, January 1948, quoting Dr. William C. Menninger, Facts and Statistics of Significance for Psychiatry.

Computation for item 3:

Medical discharges after induction	1,125,621
Army and Navy administrative discharges after induction	254,563
Total medical discharges after induction	1,380,184

Computation for item 4:

Army rejections before induction	4,857,000
Army and Navy administrative discharges	250,000
Medical discharges after induction	1,125,621
Total manpower loss due to medical causes	6,232,621

(2) Army Statistical Review, World War II, Army Services, War Department.

(3) Veterans' Administration annual report, Dec. 30, 1947, table 11, page 108.

(4) Statistics Pertinent to Psychiatry in the United States, Report No. 7, Group for the Advancement of Psychiatry, March 1949.

(5) The Hospital Survey of New York, volume II, page 947.

(6) Former Surgeon General Thomas Parran in One Out of Ten, This Week, November 17, 1946.

(7) Mental Health Fact Sheet, National Institute for Mental Health, United States Public Health Service, July 19, 1950.

(8) Computation by Dallas Pratt, M. D., National Mental Health Foundation, January 1947, quoted in Bulletin of the Menninger Clinic, volume 12, No. 1, January 1948, page 8.

(9) Bulletin, National Institute of Mental Health, United States Public Health Service, June 1950.

(10) Distribution of United States Public Health Service Funds by types—Fiscal Year 1950; Chart from National Institutes of Health, Division of Research Grants and Fellowships:

Intramural research	$329,200
Project grants-in-aid	794,000
Research fellows	100,000
Total	1,223,200

(11) America's Health, A Report to the Nation, by the National Health Assembly, page 298.

(12) Dr. William C. Menninger quoting National League of Nursing Education, 1945. Pamphlet on New Frontiers in Psychiatric Nursing.

WHAT IS THE MENTAL HEALTH SITUATION IN THE UNITED STATES TODAY AND HOW DOES IT RELATE TO OUR NATIONAL DEFENSE?

I. How many people in the United States are suffering from some form of mental illness?

1. About 8,500,000 people in the United States are suffering from some form of mental illness (1).

a. This means that more than 1 in every 18 persons is now suffering from some form of mental illness.

II. What was the military manpower loss during World War II from mental illness?

1. Rejection before induction: About 1,846,000, or 38 percent, of the 5,000,000 men rejected before induction, were rejected for neuropsychiatric disorders (2).

a. About 12 percent, or 1 out of 8, of the 15,000,000 men examined were rejected for neuropsychiatric reasons (2).

2. Discharge after induction: Of the men discharged for medical disability after induction, about 387,000 (or 37 percent of Army medical discharges) were discharged from the Army, and 76,621 (or 32.4 percent of Navy medical discharges) were discharged from the Navy for neuropsychiatric reasons (2) and (3).

a. This means that more than one out of three men medically discharged from the Armed Forces were discharged for neuropsychiatric reasons.

b. This is exclusive of the 163,000 Army men and 91,563 Navy men discharged administratively for such reasons as psychopathic personality, mental deficiency, drug addiction or homosexuality (2) and (3).

III. How many Army divisions were lost due to mental illness in World War II?

1. The total manpower loss from mental illness (2,564,184) was:

a. Sufficient to man 177 Army infantry divisions. (World War II division strength, 14,477) (4).

b. Larger than the total number of men the Army sent to the Pacific theater of operations during World War II. (2,171,511) (4).

IV. What is the need for psychiatric care in the United States?

1. One out of every 10 persons will need psychiatric care at some time during his life (5).

a. This means that about 15,000,000 persons now living in the United States will require psychiatric care at some time (5).

2. One out of every 18 persons will spend some part of his life in a mental hospital (6).

a. This means that about 8,334,000 people now living in the United States will be hospitalized for mental illness at one time or another.

V. How many people need hospitalization for mental illness?

1. Slightly more than one out of every two hospital beds in the United States is occupied by a mental patient (7).

2. 675,096, or 55 percent of the 1,224,951 patients comprising the average daily hospital census in 1949 were patients in nervous and mental hospitals (7).

3. 308,055 patients, new and old, were admitted to mental hospitals in 1949 (7). First admissions to public mental hospitals alone now exceed 200,000 annually (8).

4. Prewar studies showed that at any time there are about 1,000,000 persons sufficiently disabled by mental illness to warrant hospitalization, although only a little more than 500,000 get it (9).

VI. How many people are in tax-supported mental hospitals?

1. Of the 915,843 patients comprising the average daily hospital census of tax-supported hospitals in 1949, 658,645, or 74 percent were patients in tax-supported mental hospitals (7).

2. 97.5 percent of all mental patients are in public hospitals (7). Only about 2.5 percent of mental patients are cared for in private hospitals (7).

VII. What is the extent of minor mental illness?

1. About 50 percent of general practitioners' patients suffer from some form of mental illness (10) and (11).

2. About 30 percent of hospitalized general medical and surgical cases are more or less neurotic (12).

VIII. What is the cost of mental illness to our national economy?

1. Including hospitalization and loss in earnings, the complete loss to the Nation annually from serious mental illness alone, would reach a billion and a half dollars (13).

2. In 1950, the cost of maintaining patients in mental hospitals was $551 million, of which $506 million was public funds (14).

a. The Veterans' Administration alone pays almost $350 million annually in pensions to veterans suffering from mental illness (15) compared with $356,000 spent for research in mental health by the Veterans' Administration in 1948 (16).

b. The Veterans' Administration spent $121,600,000 in 1950 for maintenance of its mental patients (14).

IX. How many hospitals for mental disease are there in the United States?

1. About 606 hospitals, with a capacity of 705,423 beds (7).
2. There is an immediate need for 326,065 more beds for mentally ill patients (17).

X. How many clinics for mental disease are there in the United States?

1. About 1,142 clinics, including both part- and full-time clinics. This includes all those organized by communities, divisions of State or county governments, and the Veterans' Administration (18).

a. Five States are without a single community psychiatric clinic of any type; six others have only one each (18); and there are vast areas in other States where no psychiatric help is available (1).

b. At least 1,500 full-time community clinics are needed (19).

XI. How much is being spent for maintenance of patients and construction of additional facilities in mental hospitals in the United States?

1. About $737 million was spent in 1950 for this purpose, of which $551 million was for hospital care of 675,096 mental patients, and $186 million for construction of facilities (14) I. a. Approximately $692 million of this money comes out of tax funds (14).
2. In contrast to this, the people of the United States spent about $1,002,000,000 for service in beauty parlors and barber shops in 1949 (20).

XII. How much is the United States Public Health Service spending for research to prevent and cure mental illness?

1. For the fiscal year beginning July 1, 1950, Congress has made available to the National Institute of Mental Health about $1,616,800 for research, including research fellowships (21).

a. On the basis of 675,096 (7) patients in mental and nervous hospitals, this means that the United States Public Health Service is spending only about $2.40 per year for research for new treatments and cures for each hospitalized case.

b. In contrast, the Department of Agriculture spent in 1950 $61,084,970 for research on control and cure of plant and animal diseases. This includes $30,478,230 for the eradication of foot-and-mouth disease (22).

c. Only $206,000 was spent for research fellowships in mental health (21).

XIII. How much is the United States Public Health Service spending for establishment of mental health clinics and services?

1. $3,200,000 has been allotted for grants-in-aid to States for the fiscal year beginning July 1, 1950 (21).

a. These funds are to be matched by State funds at the rate of 50 cents for each Federal dollar (23).

XIV. How much was being spent for research on mental health in both private and public institutions and clinics in the United States in 1947 (latest information available on all categories?)

1. Approximately $3,322,411 was available, divided approximately as follows:

a. Public funds (including Veterans' Administration) (16) approximately	$2,249,516 (24)
b. Private funds, about	716,895 (24)

2. On the basis of 651,578 (7) patients in mental and nervous hospitals in 1947, this would indicate that the amount spent for research in 1947 per individual hospital case, employing both private and public funds, is approximately $5.

a. This figure compares with $94 per patient for research in infantile paralysis (25).

3. In contrast, the Nation spent $8,550,000,000 for alcoholic beverages alone in 1949 (26), an average of $57 annually for each man, woman, and child.

XV. In how many institutions in the United States is research in this field being conducted?

1. Results of a 1947 poll of mental institutions, nervous hospitals, medical schools and universities, etc., show that there are about 61 of these institutions that have research facilities and are engaged in research in one or more of the phases of mental illness (24).

a. About 80 percent, or $2,534,896 of the approximate total of $3,322,411, was being spent by 20 institutions throughout the country. Of these, (24) 3 are supported by Federal Government; 7 are supported by State governments; 10 are privately supported.

(1) Of this $2,534,896—$2,089,262, or 80 percent, came from public sources; $445,634, or 18 percent, came from private sources.

XVI. Do the 675,096 patients in mental hospitals receive adequate care?

1. No. The average cost of State and county long-term patient maintenance in the United States was only $659.13 per year (27), or $1.80 per day in 1948, and $1.26 per day in 1942 (28).

(*a*) These figures compare with the 1944 standards (latest available) of the American Psychiatric Association of $1,825 per patient per year, or $5 per day; and $912.50 per year, or $2.50 per day, per patient for chronic cases (29).

(*b*) In contrast, in New York City in 1949, the average cost per ward patient per day in a general hospital was a little more than $15 (30).

XVII. What are the standards for care of mental patients?

1. The approved American Psychiatric Association standards for care are (1):

(*a*) For psychiatrists: Observation and acutely ill patients, 1 psychiatrist to each 30 patients; reeducation service, 1 to 75; convalescent, 1 to 50; continuous treatment and senile, 1 to 200.

(*b*) For nurses: Observation and acutely ill patients, 1 nurse to 4 patients; convalescent, 1 to 10; reeducation service, 1 to 25; continuous treatment and senile, 1 to 40 or 50.

(*c*) For the Army: One psychiatrist to each 50 patients.

XVIII. What are the actual conditions of care in mental hospitals compared with approved standards?

1. The actual average ratio in mental hospitals is 1 psychiatrist to each 387 patients and 1 graduate nurse to each 120 patients (1).

XIX. How many doctors and other medical personnel specialized in the care of mental patients?

1. In 1950 there were 5,856 psychiatrists in the United States, many of whom are administrators or retired (31). 3,598 psychiatrists hold diplomas from the American Board of Psychiatry and Neurology, though some of these are not members of the American Psychiatric Association (32).

(*a*) As of 1950, 15,000 more psychiatrists are needed in the United States (33).

2. There are approximately 8,500 graduate nurses specializing in psychiatry in the United States (8); 83,802 practical nurses and attendants (7); and 1,586 psychiatric social workers (34).

(*a*) The National League of Nursing Education estimates our need is at least 47,000 psychiatric nurses (35), or almost 6 times the number we now have.

(*b*) Of the 1,151 State-accredited nursing schools (7) in this country, only 26 are located in mental hospitals. Fourteen States have no training facilities in psychiatric nursing (9).

3. There are approximately 1,200 trained clinical psychologists and at least 10,000 more needed (8).

4. It has been estimated that 12,000 new psychiatric social workers are needed in this country (8).

REFERENCE LIST

(1) Statistics Pertinent to Psychiatry in the United States, Report No. 7, Group for the Advancement of Psychiatry, March 1949.

(2) Bulletin of the Menninger Clinic, volume 12, No. 1, January 1948: Facts and Statistics of Significance for Psychiatry.

(3 [2]) Dr. William C. Menninger quoting F. J. Braceland: Psychiatric Lessons from World War II, American Journal of Psychiatry 103: 587–593, March 1947.

(4) Army Statistical Review, World War II, Army Services, War Department.

(5) Former Surgeon General Thomas Parran in One Out of Ten, This Week, November 17, 1946.

(6) The Hospital Survey for New York, volume II, page 947, 1937.

(7) Journal of the American Medical Association, hospital number, May 6, 1950, pages 27, 29, 31–33.

(8) Data from National Association for Mental Health: For the First Time—United National Action for Mental Health, October 1950.

(9) National Committee for Mental Hygiene, 1946 Annual Report, pages 9, 21.

(10 [1]) Dr. William C. Menninger quoting C. A. Rymer: Psychiatric Education, American Journal of Psychiatry, 102: 548–551, January 1946.

[1] From Challenge to Psychiatry, a paper compiled by Dr. William C. Menninger.

[2] From Facts and Statistics of Significance for Psychiatry, a paper compiled by Dr. William C. Menninger. Bulletin of the Menninger Clinic, January 1948.

(11 [2]) Dr. William C. Menninger quoting F. G. Ebaugh: The Care of the Psychiatric Patient in General Hospitals, Chicago American Hospital Association, 1940.

(12 [1]) Dr. William C. Menninger quoting B. Mittelman et al.: Personality and Psychosomatic Disturbances in Patients in Medical and Surgical Wards, Psychosomatic Medicine, 7:220–223; July 1945.

(13) Computation by Dallas Pratt, M. D., National Mental Health Foundation, January 1947. Quoted in Bulletin of the Menninger Clinic, volume 12, No. 1, January 1948, page 8.

(14) Cost of Hospital Care for the Mentally Ill; compilation made by Mr. Lynn Adams, National Mental Health Committee, Washington, D. C. (See appendix I.)

(15) Letter dated December 12, 1950, from Veterans' Administration, Assistant Administrator for Claims, Washington, D. C.

(16) Letter dated August, 13, 1948, from E. H. Cushing, M. D., Assistant Medical Director for Research and Education, Veterans' Administration: Research in Mental Health $356,000.

(17) Journal of the American Medical Association, October 14, 1950, volume 144, No. 7, page 556.

(18) Availability and Use of Psychiatric Clinics, 1947, by Warren W. Morse and Charles C. Limburg; Mental Health Statistics, Current Reports, March 1950. National Institute of Mental Health, Bethesda 14, Md.

(19) Dr. George Stevenson, medical director, National Association for Mental Health, in personal interview: "At least 1,500 full-time community clinics should be planned for on the basis of 1 clinic to each 100,000 people, which has proved practical. This does not entirely fill the need."

(20) Survey of Current Business, July 1950, national-income number, United States Department of Commerce, page 24.

(21) United States Public Health Service, Division of Finance:

National Institute of Mental Health, 1951 current budget

Obligational cash:	
Intramural research	$640, 800
Research projects (grants-in-aid)	770, 000
Research fellowships	206, 000
Trainees	1, 050, 000
Teaching grants	300, 000
Grants-in-aid to States	3, 200, 000
Other	963, 200
Total obligational cash	7, 130, 000
Liquidation cash. (for payment of contracts made in prior years):	
Research projects (grants-in-aid)	376, 000
Teaching grants	1, 999, 000
Total obligational and liquidation cash	9, 505, 000

(22) Budget of the United States, fiscal year ending June 30, 1951. Letter from Matthew J. Cullen, Jr., Office of the Director, Executive Office of the President, Bureau of the Budget, Washington, D. C., October 16, 1950.

(23) National Mental Health Act, 1946.

(24) Survey of Research in Mental Institutions, National Committee for Mental Hygiene, March 1948. Public funds: $2,249,516. Private funds: $716,895.

(25) Bulletin of the Menninger Clinic, volume 12, No. 1, January 1948, page 13. Chart on Research.

(26) Office of Business Economics, Release 379, June 23, 1950, Department of Commerce.

(27) Mental Health Statistics, Current Reports, June 1950, page 13, National Institute of Mental Health, Bethesda 14, Md.

(28) Dr. William C. Menninger quoting from Patients in Mental Institutions, 1942, Bureau of the Census, 1944.

(29) National Committee for Mental Hygiene, 1947 Annual Report, page 11.

(30) Dr. Willard C. Rappleye, dean, College of Physicians and Surgeons, Columbia University, New York, January 31, 1951.

[1] From Challenge to Psychiatry, a paper compiled by Dr. William C. Menninger.

[2] From facts and Statistics of Significance for Psychiatry, a paper compiled by Dr. William C. Menninger. Bulletin of the Menninger Clinic, January 1948.

(31) American Psychiatric Association membership as of December 1950, information from the National Association for Mental Health, Inc., 1790 Broadway, New York, N. Y.

(32) Letter dated January 23, 1951, from Dr. Francis J. Braceland, secretary, American Board of Psychiatry and Neurology, Rochester, Minn.

(33) Dr. George Stevenson, medical director, National Association for Mental Health, telephone conversation, February 20, 1951.

(34) Membership of American Association of Psychiatric Social Workers, November 30, 1950.

(35 [1]) Dr. William C. Menninger quoting National League of Nursing Education, 1945. Pamphlet on New Frontiers in Psychiatric Nursing.

AFTERNOON SESSION

(The hearing was resumed at 2 p. m., upon the expiration of the recess.)

National Cancer Institute

STATEMENTS OF MEFFORD R. RUNYON, EXECUTIVE VICE PRESIDENT, AMERICAN CANCER SOCIETY; C. P. RHOADS, MD., DIRECTOR, MEMORIAL CANCER CENTER, NEW YORK, N. Y.; CHARLES S. CAMERON, M. D., MEDICAL AND SCIENTIFIC DIRECTOR, AMERICAN CANCER SOCIETY, INC., FREDDY HOMBURGER, M. D., RESEARCH PROFESSOR OF MEDICINE AND DIRECTOR OF THE CANCER RESEARCH AND CONTROL UNIT, TUFTS COLLEGE MEDICAL SCHOOL, BOSTON, MASS.; ROBERT A. MOORE, M. D., DEAN, SCHOOL OF MEDICINE, WASHINGTON UNIVERSITY, ST. LOUIS, MO., AND GUY AUD, M. D., LOUISVILLE, KY., PRESIDENT, AMERICAN CANCER SOCIETY, INC.

RESEARCH PROGRAMS

Senator Hill. Dr. Rhoads, are you going to be the first witness? Or have you any preference as to the order in which you wish to appear?

Mr. Runyon. I would like to make a few prefatory statements. You have the list of those who are to appear.

Senator Hill. The first on the list, I believe, is Mr. Adams.

Mr. Runyon. He was detained, sir. My name is Mefford R. Runyon. I am the executive vice president of the American Cancer Society. I am not on that list, because I am taking the place of Mr. Adams.

We have already presented the citizens budget, which we are advocating, and which we are talking about this afternoon. It is made up of three columns, the current budget, the proposed budget, and the citizens budget.

Senator Hill. We will place in the record the material to which you are addressing yourself, including these various charts.

(The information is as follows:)

[1] From Challenge to Psychiatry, a paper compiled by Dr. William C. Menninger.

National Cancer Institute

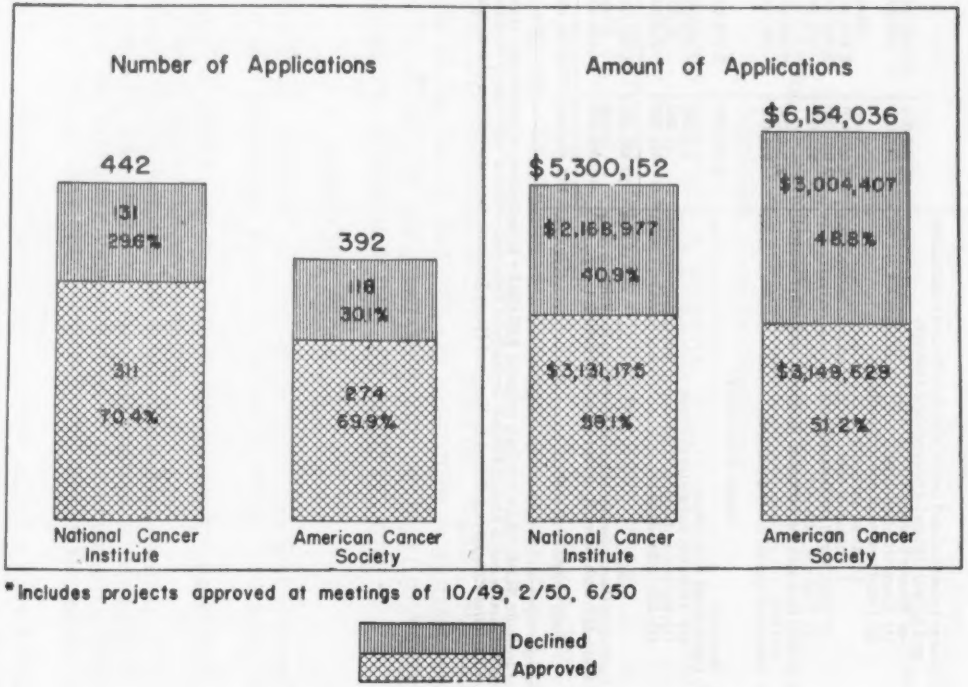
Description	1951 current budget	1952 Budget Bureau estimate	1952 citizens budget proposal
GRANTS			
1. Grants to medical and dental schools and other institutions and to individuals for research and training:			
(a) Research projects	$3,136,000	$3,300,000	[1] $6,500,000
(b) Research fellowships	517,000	500,000	750,000
(c) Construction of research facilities:			
Contract authority	None	None	9,000,000
Liquidation cash	5,000,000	4,825,000	4,825,000
(d) Teaching of medical subjects	2,040,000	2,040,000	2,100,000
(e) Training stipends	375,000	375,000	500,000
2. Grants to States for detection, diagnosis, and other control services	3,200,000	3,200,000	3,500,000
3. Grants for special control projects	949,000	900,000	1,000,000
DIRECT OPERATIONS			
1. Research	3,770,000	3,909,000	3,909,000
2. Other direct operations:			
(a) Technical assistance to States	475,000	465,000	465,000
(b) Review and approval of research and training grants	82,000	83,000	83,000
(c) Administration	342,000	350,000	350,000
Total	19,886,000	19,947,000	32,982,000
Contract authority for construction of research facilities	None	None	−9,000,000
Liquidation cash for construction of research facilities	−5,000,000	−4,825,000	−4,825,000
Total obligational cash	[2] 14,886,000	[2] 15,122,000	19,157,000

[1] Includes $4,800,000 for research projects; $200,000 for investigation of cancer cure claims; $1,000,000 for institutional research grants; $500,000 for study of biological effects of high energy radiation.

[2] Excludes $200,000 transferred to National Heart Institute for consolidation of national blood program

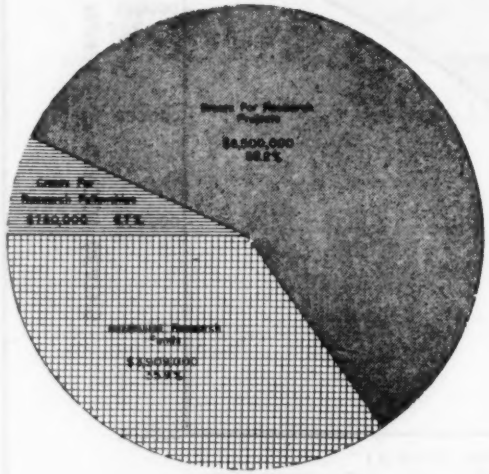
APPLICATIONS FOR SUPPORT OF CANCER RESEARCH

National Cancer Institute* and American Cancer Society - 1950



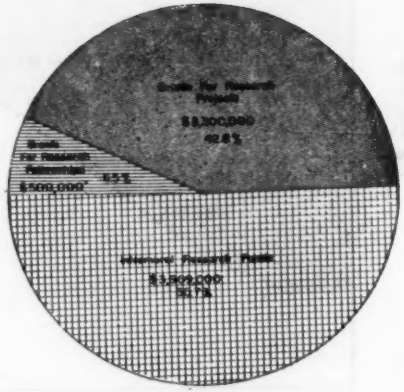
PROPOSED RESEARCH BUDGET
National Cancer Institute - 1952

Citizens Budget Proposal

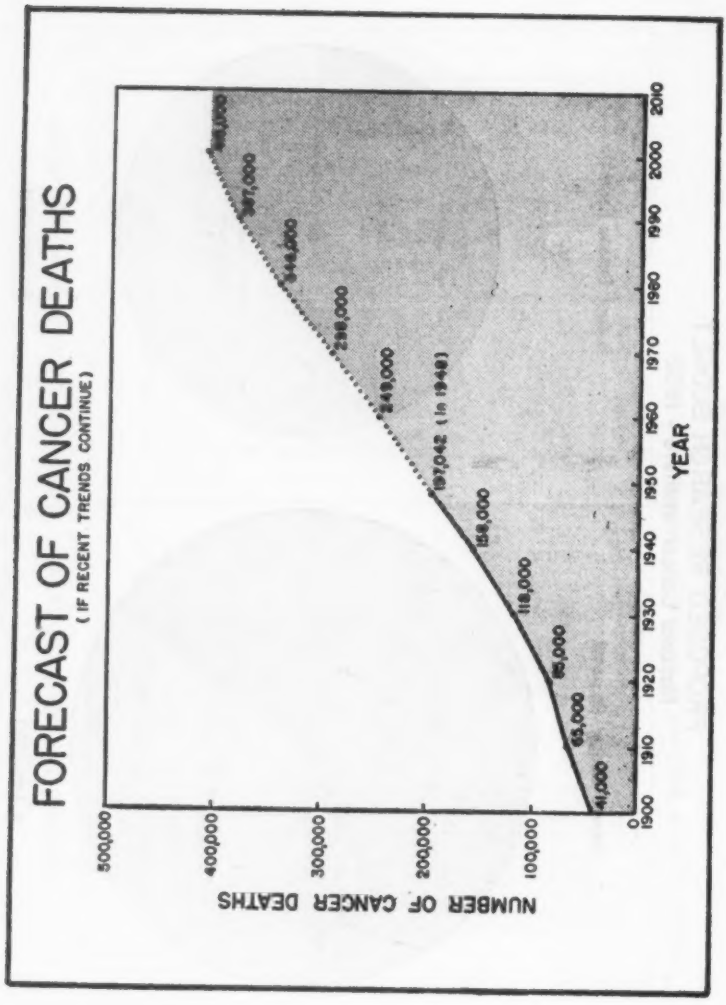


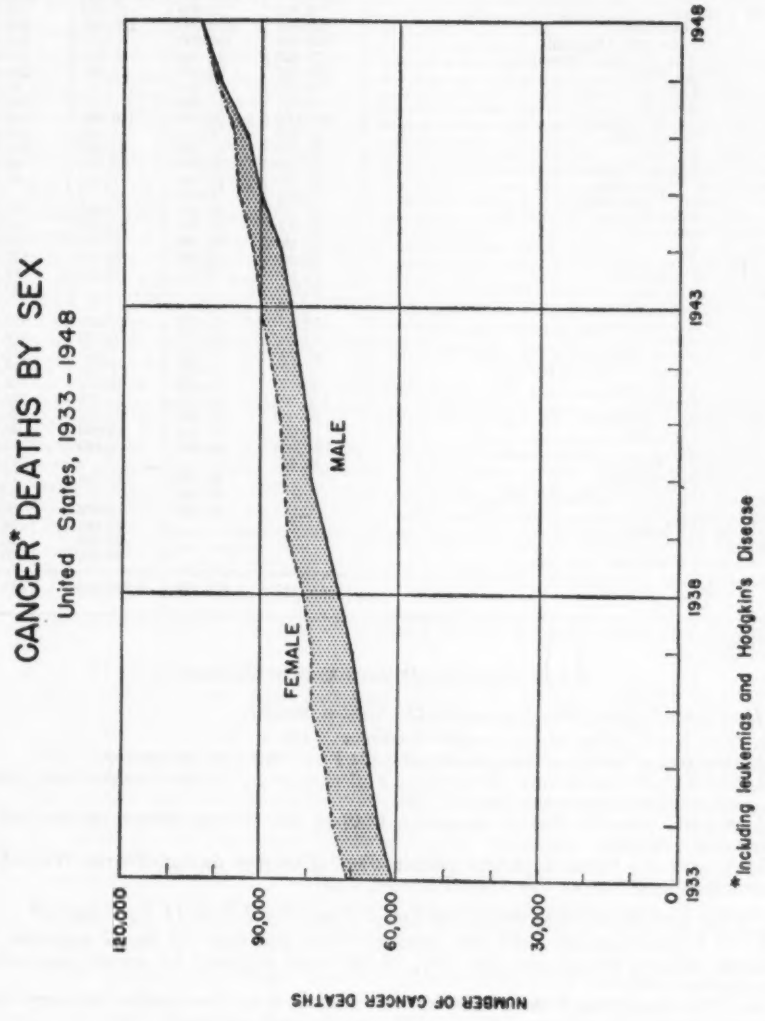
$11,159,000

Budget Bureau Estimate



$7,709,000


FORECAST OF CANCER DEATHS
(IF RECENT TRENDS CONTINUE)
NUMBER OF CANCER DEATHS
YEAR
500,000
400,000
300,000
200,000
100,000
0
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
41,000
63,000
85,000
118,000
158,000
197,042 (in 1948)
249,000
298,000
346,000
397,000


CANCER* DEATHS BY SEX
United States, 1933 - 1948
FEMALE
MALE
NUMBER OF CANCER DEATHS
120,000
90,000
60,000
30,000
0
1933
1938
1943
1948
*Including leukemias and Hodgkin's Disease

Institutional Research Grants—American Cancer Society, Inc., 1948–51

	1948–49	1949–50	1950–51	Totals
Memorial Center	[1] $274,000	[1] $340,000	[2] $340,000	$954,000
Emory University	5,600	20,000	13,000	38,600
University of Chicago	120,000	150,000	128,980	398,980
Massachusetts General Hospital	100,000	100,000	55,654	255,654
Detroit Institute of Cancer Research	75,000	25,000	25,000	125,000
Columbia University	100,000	70,000	34,237	204,237
Montefiore Hospital	12,970	10,000	----------	22,970
Princeton University	57,514	12,125	----------	69,639
Institute of Cancer Research	150,000	150,000	150,000	450,000
University of Tennessee	25,000	Time	15,000	40,000
University of Texas	50,000	42,200	32,860	125,060
George Washington University	25,000	20,000	15,516	60,516
University of Washington	25,000	10,000	Time	35,000
State College of Washington	Time	Time	----------	----------
Massachusetts Institute of Technology	70,000	20,000	20,000	110,000
Polaroid Corporation	50,000	25,000	30,000	105,000
Tufts	34,500	50,000	48,574	133,074
Washington University	50,000	50,000	36,308	136,308
University of Delaware	15,400	Time	Time	15,400
University of Illinois	20,000	----------	----------	20,000
University of Kansas	8,000	----------	----------	8,000
Southern Research Institute	15,000	12,000	Time	27,000
Tulane University	47,452	75,000	[1] 38,000	160,452
Medical College of Virginia	37,900	10,000	Time	47,900
American Museum of Natural History	8,500	10,000	Time	18,500
University of California	50,000	15,000	39,831	104,831
Harvard University	100,000	100,000	75,375	275,375
Johns Hopkins University	30,000	25,000	12,477	67,477
St. Vincent's Hospital	15,000	15,000	15,000	45,000
Yale University	50,000	10,000	2,963	62,963
ACS, California Division	11,531	----------	----------	11,531
University of Minnesota	----------	50,000	[1] 27,534	77,534
New York University Bellevue	----------	10,000	----------	10,000
Rutgers University	----------	25,000	25,000	50,000
University of Colorado	----------	----------	20,000	20,000
Ohio State University	----------	----------	25,000	25,000
University of Rochester	----------	----------	20,000	20,000
Totals	1,633,367	1,451,325	1,246,309	4,331,001

[1] 2 grants.
[2] 3 grants.

What Are We Doing About Cancer?

I. How many people die of cancer in the United States?

1. The No. 2 killer of our people is cancer. (1)
2. One out of every seven people who died in 1949 died of cancer. (1)
3. 22,000,000 people now alive will die of cancer unless new treatments, cures, or preventive measures are found. (2)
4. 204,651 persons died of cancer in 1949 in the United States, or one out of every seven deaths. (1)
5. Almost 2½ times as many people died of cancer during World War II as were killed in action in the Armed Forces. (3)

II. What was the military manpower loss during World War II from cancer?

1. Of approximately 5,000,000 men between the ages 18 to 37 rejected for medical reasons during the last war, 32,200 were rejected for cancer and other neoplasms. (4)

(*a*) This would have been sufficient to man at least two Army Infantry divisions of World War II strength (14,477 men to each division). (5)

III. What is the civilian economic loss from cancer and what does it mean to wartime productivity?

1. 42,108,000 man-workdays are lost each year. (6)
2. $250,000,000 are lost annually in productivity. (7)

This would purchase: 3,334,000 Garand rifles at $75 each or 1,366 pursuit planes at $183,000 or 1,250 medium tanks at $200,000 or 3 airborne divisions' equipment at about $75,000,000.

IV. How many people are suffering from cancer in the United States?

1. At least 600,000 people are estimated presently under treatment for cancer. (9)

(*a*) About 400,000 new cases of cancer are diagnosed each year. (9)

2. About one out of every five people now alive in the United States will have cancer at some time in his life unless new preventive measures are found. (9)

V. How many veterans will be victims of cancer?

1. On the basis that 1 out of 5 Americans now living will have cancer unless new preventive measures are found (10), and that in 1947 there was a total of 18,271,000 living veterans of all wars (14,361,000 were veterans of World War II) (11), over 3½ million veterans will be hospitalized or will be entitled to hospitalization for cancer. They will be in the hospital for an average of 1 year apiece, and each case will cost the taxpayer $3,000 (12), or a total or more than $10,000,000,000.

VI. What is being done to help cancer sufferers in the United States?

1. There are only 16 special cancer hospitals in the United States. Of these 12 were registered by the American Medical Association for 1950 (of which 10 were approved by the American College of Surgeons (14) with a listed bed capacity of 1,301. (13) In addition but not listed, there are 3 new cancer hospitals in New York City and Chicago, and a hospital for cancer research in Houston, Texas, whose bed capacity is not indicated. There are also 7 related institutions (such as nursing homes and infirmaries, which give certain medical and nursing care), with approximately 567 beds listed. (13)

(*a*) In contrast with this, 101,377 special beds are available for tuberculosis patients; (15) tuberculosis killed an estimated 39,032 people in 1949, while cancer killed 204,651. (1)

2. We have only 151 cancer detection centers approved by the American College of Surgeons (for people with no apparent symptoms), in the United States (14); or approximately 1 detection center to every 1,000,000 people.

3. We have only 568 approved cancer treatment and diagnostic clinics in the United States, of which 119 are cancer diagnostic (only) clinics and 7 are departmental cancer clinics. (14)

(*a*) There is need of a cancer clinic for every 100,000 population, one within a radius of 30 to 50 miles from each patient. (17)

VII. How much money is available for research to find new treatments and cures for cancer?

1. About $14,020,600 divided as follows (appendix I):

(*a*) Government funds: The National Cancer Institute, USPHS, and the Atomic Energy Commission have appropriations for cancer research for the fiscal year beginning July 1, 1950 of about $8,805,600.

(*b*) Non-Government funds: Voluntary agencies allocated approximately $5,215,000 (appendix I).

2. This means that we are spending about $68.51 per cancer death annually, or $23.37 per known case.

(*a*) In contrast, the National Foundation for Infantile Paralysis allocated $1,734,065 for research in 1949 (20) or about $915.07 per death.

(*b*) Congress authorized the expenditure of $30,478,230 by the Department of Agriculture in 1950, for the campaign of control and eradication of foot-and mouth disease now being conducted in Mexico in cooperation with the Mexican Government. (21)

VIII. Do the people of the United States want more done about cancer research?

1. Yes. In a Nation-wide poll, 82 percent of the people questioned said they believed that $200,000,000 should be spent by the Government for cancer research. (22)

IX. How much money has the American Cancer Society raised for education and service to cancer patients, and for lay and professional education in this field, excluding research?

1. The American Cancer Society and all its State and local divisions raised about $10,372,000 for this purpose in 1950, over and above the amount raised for research. (23)

(*a*) This is in contrast with $832,862 raised nationally by the society in 1944, and $372,057.17 in 1943 when no funds were allocated to research. (24)

X. How much is the Government spending for establishment of cancer clinics and services?

1. The National Cancer Institute, United States Public Health Service, has about $3,200,000 for the year ending June 30, 1951, for grants-in-aid to States for establishment of clinics and services to cancer patients, and $2,040,000 for teaching grants and $375,000 for trainees, to medical schools. (18)

(*a*) This makes a total of about $15,987,000 to be spent for service and education in this field, both from voluntary organizations and Government funds.

2. In contrast to this, Congress made available to the United States Public Health Service alone for grants-in-aid to States to establish clinics and services—$10,390,600 for control of venereal diseases and $6,350,000 for tuberculosis control. (25)

(*a*) Only 8,236 deaths were attributed to syphilis in 1949 and 39,032 edaths to tuberculosis; but cancer killed 204,651 people in the same year. (1)

XI. How does what we spend on cancer research compare with what we spend on other things?

1. In contrast with the total of about $14,020,600 which is available from public and private sources, for cancer research:

(*a*) The people of the United States spent approximately (26):

1. $6,357,000 for dog and pet medicaments in 1949.
2. $8,356,000 for bath salts, tablets and oils.
3. $9,730,000 for elastic stockings.

XII. How do deaths from cancer compare with deaths from other diseases?

1. The No. 2 killer of the United States is cancer. Only cardio-vascular-renal diseases cause more deaths. (27)

(*a*) More than 5 times as many people died of cancer as of tuberculosis in 1949. (27)

(*b*) Nearly 99 times as many people died of cancer in 1949 as died of infantile paralysis in the same year. (27)

XIII. Is cancer primarily a disease of old age?

1. No. Of 204,651 deaths in 1949 from cancer and other malignant tumors: (1)

(*a*) 104,651 or over half, were under 65 years old.

(*b*) 23,524 or about 12 percent were under 45 years old.

(*c*) 5,123 or about 2.5 percent were under 25 years old.

XIV. What are the leads in the field of cancer research?

1. There are leads in cancer research in many directions, including:

(*a*) Uses of radioactive materials, both as methods of treatment and as research tools.

(*b*) Use of nitrogen mustards in the treatment of leukemia and Hodgkin's disease.

(*c*) Antibiotic substances and chemical compounds which affect cancer tissue.

(*d*) Use of hormones, including ACTH and cortisone in leukemia, lymphosarcoma and other types of cancer; also use of estrogens and androgens in the treatment of cancer of the breast, and estrogens in cancer of the prostate gland.

(*e*) Studies in nutrition.

(*f*) Improved methods of surgery; new methods in the use of X-ray.

(*g*) New and refined methods of diagnosis.

(*h*) Studies of the chemical life processes of the normal and cancer cell.

(*i*) Research in use of viruses against cancer.

REFERENCE LIST

(1) National Office of Vital Statistics. 1949 total deaths, 1,446,000; deaths from cancer (malignant neoplasms), 204,651; these are provisional figures—final 1949 mortality data not yet available (1 out of 7.07 in 1949; 1 out of 7.33 in 1948).

(2) American Cancer Society—Dr. C. Hammond, Director of Statistical Research—February 1951.

(3) Killed in action in World War II, 282,025 (World Almanac 1949, p. 326; World Almanac 1946, p. 44) Cancer deaths for same period, 678,883. (National Office of Vital Statistics).

(4) Selective Service System, National Headquarters, chart "Estimated Principal Causes, for Rejection of Registrants 18–37 Years of Age in Class IV–F and Classes with F Designation, August 1, 1945."

(5) Army Statistical Review, World War II, Army Services, War Department.

(6) Projection of National Health Survey figures based on July 1, 1937 estimated population.

(7) America's Health—A Report to the Nation, by The National Health Assembly, p. 186. Published by Harper & Bros., 1949.

(8) Survey made by National Cancer Institute and reported in United States Public Health Reports for January 14, 21, and 28, 1944, by Harold F. Dorn.

(9) Estimates made by National Cancer Institute, based on data secured in cancer morbidity studies, 1947.

(10) Estimates contained in letters from John R. Heller, Director, National Cancer Institute, United States Public Health, September 13, 1949 and November 10, 1949.

(11) Veterans' Administration Annual Report as of June 30, 1947, p. 1. (18,271,000 divided by 5 equals 3,654,200 possible veteran cancer victims; 3,654,200 multiplied by $3,000 cost per case equals $10,962,600,000.)

(12) Congressional Record, April 26, 1950, p. 5845. Representative John E. Fogarty quoting Dr. C. P. Rhoads of Memorial Hospital, New York.

(13) Journal of the American Medical Association, May 6, 1950, vol. 143, No. 1, pp. 38–100.

	Beds
Massachusetts:	
Pondville Hospital, Walpole	60
Westfield State Sanatarium	[1] 194
Michigan: Mercy Hall Hospital, Detroit	70
Missouri:	
Ellis Fischel State Cancer Hospital, Columbia	104
Barnard Free Skin and Cancer Hospital, St. Louis	42
New York:	
Roswell Park Memorial Institute, Buffalo	110
Brooklyn Cancer Institute, Brooklyn	77
Memorial Hospital, New York	268
New York City Cancer Institute, New York	210
Frances Delafield Hospital	[2]
James Ewing	[2]
Pennsylvania:	
American Oncologic Hospital, Philadelphia	55
Jeanes Hospital, Philadelphia	80
Skin and Cancer Hospital, Philadelphia	31
Illinois: Nathan Goldblatt Memorial Hospital for Cancer Research, Chicago	[2]
Texas: M. D. Anderson Hospital for Cancer Research, Houston	[2]
Total cancer beds	1,301

[1] Includes an unspecified number of beds for tubercular patients.
[2] Not listed.

(14) Bulletin of American College of Surgeons, December 1950.

(15) United States Public Health Service, Division of Tuberculosis: Index of Hospitals and Sanatoria with Tuberculosis Beds as of January 1, 1950.

(16) Calculation based on 150,000,000 estimated 1950 United States population.

(17) Cancer Control Letter, Federal Security Agency, National Cancer Institute, No. 16, dated March 28, 1949.

(18) United States Public Health Service, Division of Finance. National Cancer Institute 1951 Current Budget.

Obligational cash	
Intramural research	$3,770,000
Research projects (grants-in-aid)	[1] 3,136,000
Research fellowships	517,000
Trainees	375,000
Teaching grants	2,040,000
Grants-in-aid to States	3,200,000
Other	1,848,000
Total	[1] 14,886,000
Liquidation cash (for payment of contracts made in prior years):	
Construction grants	5,000,000
Total obligational and liquidation cash	[1] 19,886,000

[1] Excludes $200,000 transferred to National Heart Institute for consolidation of National Blood Program

(19) Atomic Energy Commission, Division of Biology and Medicine, Washington, D. C.
(20) National Foundation for Infantile Paralysis, 1949 figures.
(21) Letter from Bureau of the Budget, Office of the Director, dated October 16, 1950.
(22) Report of Gallup Poll in New York World Telegram, June 12, 1946.
(23) American Cancer Society, New York Research Service Unit, letter dated Jan. 11, 1951.
(24) American Cancer Society, New York—J. H. Teeter, Dec. 13, 1949.
(25) National Institutes of Health, Division of Research Grants and Fellowships chart dated October 30, 1950.
(26) Drug Topics, vol. 94, No. 20, September 25, 1950, pp. 2, 4, and 6. Published by Topics Publishing Co., New York, N. Y.
(27) National Office of Vital Statistics. 1949 deaths—tuberculosis 39,032; cardiovascular-renal diseases 750,380; infantile paralysis 2,074; cancer, 204,651. These are provisional figures—final 1949 mortality data not yet available.
(28) Survey conducted by Dr. C. P. Rhoads for the Committee on Growth for American Cancer Society, 1946.

APPENDIX I. *Funds available for cancer research*

Government funds:		
1. National Cancer Institute, U. S. Public Health Service for fiscal year 1950–51: (18)		
(*a*) Intra-Mural Research	$3, 770, 000	
(*b*) Research Projects (Grants-in-Aid)	3, 136, 000	
(*c*) Research Fellowships	517, 000	
Total	7, 423, 000	
2. Atomic Energy Commission, Division of Biology and Medicine (for fiscal year 1950–51) (19)	1, 382, 600	
Total Government funds		$8, 805, 600
Non-Government funds:		
1. American Cancer Society (23) approximate (for 1950–51 program beginning July 1, 1950, figures as of Jan. 1, 1951)	$3, 565, 000	
2. Damon Runyon Memorial Fund (23) approximate	[1] 1, 000, 000	
3. Other voluntary agencies throughout the (28) country—estimated annually at about a minimum of	650, 000	
Total non-Government funds		5, 215, 000
Total all funds (approximate)		14, 020, 600

[1] Grants totaling $3,471,874 have been made from July 1947 to Dec. 31, 1950, or an average of $1,000,000 annually.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources

	Abbreviations
American Cancer Society	ACS
Atomic Energy Commission	AEC
Damon Runyon Memorial Fund	DRMF
Jane Coffin Childs Memorial Fund	JCC
National Cancer Institute	NCI

(Prepared from data available Oct. 1, 1950)

ALABAMA

1. Alabama Polytechnic Institute (Auburn):		
Salmon (N–1C)	$14,000	ACS
Salmon (N–1Bs)	(1)	DRMF
Salmon (C–1018 C)	15,000	NCI
2. Baptist Hospital (Birmingham):		
Casey (CPB–1D)	(1)	ACS
Casey (CPB–1C)	(1)	DRMF
3. George Washington Carver Foundation (Tuskegee institute):		
Henderson and Mason (DRIR–74)	10,000	DRMF
4. Southern Research Institute (Birmingham):		
Skipper (BI–5C)	28,172	ACS
Skipper (INSTR–38C)	(1)	ACS
Skipper (C–1184)	14,688	NCI

ARIZONA

1. Arizona State College (Tempe):		
Stahnke (DRIR–60)	6,000	DRMF

ARKANSAS

1. University of Arkansas (Little Rock):		
Meschan (DRIR–68)	10,000	DRMF

CALIFORNIA

1. ACS, Los Angeles Unit (Los Angeles):		
Johnson (DRIR–47)	(1)	DRMF
2. California Institute of Technology (Pasadena):		
Beadle (BO–3D)	(1)	ACS
Benzer (F–84)	(2)	ACS
Bonner and Went (BO–4D)	7,000	ACS
Dougherty (F–54)	(2)	ACS
Emerson (EG–2E)	(1)	ACS
Garner (F–88)	(2)	ACS
Koepfli (C–354 C)	13,716	NCI
Lucas (C–1325)	6,000	NCI
3. University of California (Los Angeles and Berkeley):		
Bassett (CIE–6C)	6,500	ACS
Berg (MOR–14)	3,000	ACS
Bostick (C–337 C3)	5,298	NCI
Carpenter and Kinosita (C–1350)	6,091	NCI
Chaikoff (IS–6C)	8,000	ACS
Chaikoff (C–879 C)	17,604	NCI
Dougherty (F–54)	(2)	ACS
Dunn (PR–9C)	5,000	ACS
Eiler (C–448 C2)	6,843	NCI
Evans (C–1098)	20,000	NCI
Greenberg (E–4D)	(1)	ACS
Greenberg (C–327 C3)	12,000	NCI
Hassid and Stumpf (MET–4)	5,325	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

CALIFORNIA—continued

3. University of California—Continued		
Kelly (DRF–23A)	[2]	DRMF
Kirk (C–1D)	$10, 000	ACS
Kirk (C–403 C3)	3, 240	NCI
Lawrence (GPM–3)	17, 000	AEC
Margen (DRF–9A)	[2]	DRMF
Moon (C–421 C2)	2, 235	NCI
Mustacchi (DRF–26A)	[2]	DRMF
Rabinovitz (F–93)	[2]	ACS
Smyth (C–396 C2)	101, 408	NCI
Stanier and Duodoroff (E–29A)	8, 020	ACS
Stone (INSTR–43B)	50, 000	ACS
Tarver (IS–5D)	7, 560	ACS
White (PR–6C)	7, 000	ACS
Williams, A. R. (F–99)	[2]	ACS
Williams, R. C. (PH–3D)	7, 376	ACS
4. Cedars of Lebanon Hospital (Los Angeles):		
Friedman (No. 91)	2, 735	JCC
Friedman (C–1059 C)	4, 546	NCI
5. Laboratory for Research on Treatment of Cancer (Boulder Creek):		
Turner (C–957 C)	1, 225	NCI
Turner (C–957 C2)	3, 675	NCI
6. Los Angeles County Hospital (Los Angeles):		
Pearson (C–962 C)	12, 500	NCI
7. Mount Zion Hospital (San Francisco):		
Biskind (C–384 C3)	5, 500	NCI
8. Rees-Stealy Medical Research Fund (San Diego):		
Stimmel (CIE–7C)	5, 000	ACS
Stimmel (C–759 C2)	5, 000	NCI
9. Santa Barbara Cottage Hospital Research Institute (Santa Barbara):		
Bischoff (C–1176)	10, 888	NCI
10. University of Southern California (Los Angeles):		
Deuel and Cheng (GPB–47)	23, 382	AEC
Pease (C–1142)	4, 536	NCI
Winzler (PR–14)	5, 000	ACS
Winzler (C–797 C2)	5, 746	NCI
11. Stanford University (Stanford):		
Cunningham (F–64A)	[2]	ACS
Griffin (PR–15)	3, 000	ACS
Kaplan (C–778 C2)	16, 659	NCI
Kirkman (CP–18B)	4, 320	ACS
Kirkman (C–738 C2)	2, 592	NCI
Loring (PR–12A)	6, 000	ACS
Luck (C–484 C2)	28, 912	NCI
Pencharz (H–1)	4, 000	ACS
Pencharz (C–1302)	7, 000	NCI
Salzberg (F–94)	[2]	ACS
Tatum (EG–27B)	3, 800	ACS
Tatum (No. 86)	5, 000	JCC
Tatum and Griffin (C–1145)	4, 104	NCI
Twitty (CP–13C)	5, 520	ACS
Welsh (F–98)	[2]	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

COLORADO

1. University of Colorado (Denver):		
Darley (INSTR–55)	$20,000	ACS
Gordon and Taylor (C–649 C2)	9,990	NCI
Herrmann (C–14A)	10,000	ACS
Hill (C–600 C2)	9,000	NCI
Puck (V–16A)	2,500	ACS
Puck (V–16)	[1]	DRMF
Scharrer (CP–1C)	2,625	ACS
Taylor (C–487 C2)	3,000	NCI
2. University of Denver (Denver):		
D'Amour (GPM–70)	19,000	AEC

CONNECTICUT

1. University of Connecticut (Storrs):		
Landauer (EG–7C)	3,000	ACS
2. VII International Congress for Cellular Biology (New Haven):		
Harrison et al. (C–1028)	5,000	NCI
3. New Haven Hospital (New Haven):		
Erslev (DRF–45)	[2]	DRMF
4. Yale University (New Haven):		
Albrink (F–62A)	[2]	ACS
Animal House (No. 24)	1,000	JCC
Anlyan (C–1146)	3,900	NCI
Banfield (F–63A)	[2]	ACS
Bonner (BO–12E)	4,212	ACS
Boving (C–1259–F–2027)	540	NCI
Bunting (C–383 C3)	8,748	NCI
Cliffton (INSTR–47B)	6,000	ACS
Cutter (CP–38)	3,715	ACS
Duran-Reynals (V–8D)	9,880	ACS
Duran-Reynals (No. 20)	16,500	JCC
Duran-Reyanls (C–997 C)	18,306	NCI
Fruton (E–14D)	7,128	ACS
Gardner (No. 13)	6,000	JCC
Gardner (C–343 C3)	7,473	NCI
Greene (CP–11C)	9,500	ACS
Greene (No. 43)	12,000	JCC
Greene (C–918 C)	10,065	NCI
Hoberman (PR–11A)	8,000	ACS
Kroll (F–70A)	[2]	ACS
Nicholas and Boell (MOR–9B)	10,065	NCI
Parfentjev (C–1201)	2,786	NCI
Stone (PF–11C)	[2]	ACS
Strong (No. 12)	13,430	JCC
Strong (C–932 C)	8,000	NCI
Sturtevant (E–15C)	3,000	ACS
Trentin (No. 61–15)	[2]	JCC
Van Wagenen and Gardner (C–429 C3)	12,960	NCI
Wallace (No. 61–23)	[2]	JCC

DELAWARE

1. University of Delaware (Newark):		
Feeny (INSTR–34B)	[1]	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

DISTRICT OF COLUMBIA

1. Georgetown University:		
Geschickter (C–352 C2)	$5,000	NCI
Geschickter et al (C–1138)	5,000	NCI
Karczmar (C–831 C)	4,500	NCI
Sullivan (C–1340)	9,774	NCI
2. George Washington University:		
Andrew (C–622 C2)	8,286	NCI
Cornman (CP–37)	4,294	ACS
Cornman (C–1234)	5,511	NCI
Klopp (INSTR–24C)	20,000	ACS
Klopp (DRIR–42)	(1)	DRMF
Klopp (C–391 C3)	7,975	NCI
Smith (C–308 C3)	9,936	NCI
3. National Academy of Sciences:		
Grady (American Reg. of Path.) (C–650 C2)	5,400	NCI
Kirner (CBC–1E)	15,000	ACS
Kirner (C–366 C3)	27,000	NCI
Warren (INST–27B)	5,500	ACS
Warren (No. 96)	1,000	JCC
Warren (C–561 C2)	10,800	NCI
Weed (American Reg. of Path.) (INST–6D)	5,250	ACS
Weed (INST–5B)	16,000	ACS
Winternitz (C–1381)	15,000	NCI

FLORIDA

1. University of Florida (Gainesville):		
Allen (C–1039 C)	18,500	NCI
Ray (C–976)	12,560	NCI
Ray (C–1066)	10,000	NCI
2. University of Miami (Miami):		
Dunning (CP–6C)	5,000	ACS

GEORGIA

1. Emory University (Emory University):		
Friedewald (C–1217)	13,176	NCI
Russell and Wilhelmi (EEP–6D)	8,140	ACS
Scarborough (INSTR–13C)	13,000	ACS
2. University of Georgia (Athens and Augusta):		
Hall (C–1083 C)	5,940	NCI
Murphey (DRF–53)	(2)	DRMF
3. Oglethorpe University (Oglethorpe University):		
Cohen (CP–36)	4,500	ACS

ILLINOIS

1. "Cancer Research" (Chicago):		
"Cancer Research" (No. 36)	5,500	JCC
2. Carle Foundation (Urbana):		
Quastler (C–302 C3)	4,860	NCI
3. Chicago Medical School (Chicago):		
Davidsohn (C–1113)	13,198	NCI
Neiman (V–12A)	3,000	ACS
4. University of Chicago (Chicago):		
Anker (GPM–82)	4,300	AEC
Barkulis (F–33B)	(2)	ACS
Bethard (DRSF–1)	(2)	ACS
Clark (C–1054 C)	10,044	NCI
Coggeshall (INSTR–14C)	150,000	ACS
DeBruyn (R–9A)	6,048	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

ILLINOIS—continued

4. University of Chicago—Continued		
Doyle (E–26A)	$8,060	ACS
Gersh (C–5C)	13,000	ACS
Gomori (C–1286)	8,996	NCI
Green (C–1045 C)	4,520	NCI
Huggins (CBC–3B)	55,000	ACS
Huggins (E–20B)	(1)	ACS
Hutchens (C–788 C2)	4,000	NCI
Jacobson (C–963 C)	14,287	NCI
Kenyon (CIE–2D)	7,551	ACS
Klüver (C–332 C3)	3,132	NCI
Lorincz (DRF–38)	(2)	DRMF
Moon (C–815 CR)	30,000	NCI
Nicholas et al. (C–814)	5,409	NCI
Putnam (C–1331)	7,830	NCI
Rothman (C–1220)	4,374	NCI
Steiner (CS–1D)	11,718	ACS
Talalay (DRF–59)	(2)	DRMF
Vennesland (E–34)	6,000	ACS
Weiss (MOR–10B)	9,625	ACS
5. Herrin Hospital (Herrin):		
Bornstein (CS–5A)	250	ACS
6. University of Illinois (Chicago):		
Bennett and Harvey (GPP–15)	23,620	AEC
Catchpole (EEP–12A)	6,048	ACS
Harvey and Bailey (C–853 C)	13,770	NCI
Harvey and Bennett (C–854 C)	15,000	NCI
Hughes (C–1030)	13,471	NCI
Ivy (C–317 C3)	11,880	NCI
Ivy (C–737 C2)	4,790	NCI
Ivy (C–1110)	3,870	NCI
Luria (V–3D)	12,000	ACS
Poncher (C–875 C)	5,400	NCI
Schour (C–464 C3)	9,828	ACS
Spiegelman (C–1094 C)	9,900	NCI
7. Michael Reese Hospital (Chicago):		
Tannenbaum (N–3C)	10,000	ACS
Tannenbaum (C–248 C4)	12,000	NCI
8. Northwestern University (Evanston):		
Freeman (C–826 C)	9,288	NCI
King (C–365 C4)	5,400	NCI
Martin (C–386 C3)	2,160	NCI
Riegel (S–5D)	4,860	ACS
Riegel (C–608 C2)	15,000	NCI
Wartman (C–1005 C)	15,000	NCI
11. University of Southern Illinois (Carbondale):		
Lindegren (C–1179)	5,000	NCI

INDIANA

1. Indiana University (Bloomington and Indianapolis):		
Campaigne (C–1125)	1,998	NCI
Lawrence (DRIR–63)	20,000	DRMF
Muller (EG–9D)	11,400	ACS
Muller (C–382 C3)	8,500	NCI
Shrigley (No. 87)	4,000	JCC
Shrigley (C–1086)	6,480	NCI
Sonneborn (EG–31)	8,000	ACS
Van Dyke (C–832 C2)	6,480	NCI
2. University of Notre Dame (Notre Dame):		
Campbell (CH–3)	2,500	ACS
Campbell (C–399 C3)	7,200	NCI
Reyniers (DRIR–48)	25,000	DRMF

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

IOWA

1. Iowa State College (Ames):		
Fox (C–325 C2)	$9,730	NCI
2. State University of Iowa (Iowa City):		
Gerarde (F–89)	(2)	ACS
Leinfelder (CP–31A)	(1)	ACS
Marsh and Beams (CP–27A)	5,000	ACS
Witschi (MOR–11B)	5,000	ACS

KANSAS

1. Kansas State College (Manhattan):		
Kummerow (CBC–4A)	2,000	ACS
2. University of Kansas (Kansas City):		
Stowell (C–9C)	9,000	ACS
Stowell (C–728 C2)	13,500	NCI
Stowell (C–1193)	6,210	NCI

KENTUCKY

1. University of Louisville (Louisville):		
Hall (MOR–12A)	4,860	ACS

LOUISIANA

1. Louisiana State University (New Orleans):		
Burdette (C–1063 C)	4,568	NCI
Burdette (C–1208)	11,804	NCI
2. Tulane University (New Orleans):		
Dunlap (C–745 C2)	10,000	NCI
Nieset and Murison (CPF–5A)	(1)	DRMF
Nieset and Randolph (PH–8B)	4,500	ACS
Segaloff (INSTR–39B)	13,000	ACS
Segaloff (INSTR–53)	25,000	ACS
Segaloff (DRIR–49)	15,000	DRMF
Segaloff (C–817 C2)	10,000	NCI
Smith (C–825 C)	9,990	NCI

MAINE

1. R. B. Jackson Memorial Laboratory (Bar Harbor):		
Hummel et al. (V–4D)	11,300	ACS
Hummel and Little (EG–10D)	2,141	ACS
Jay (CP–39)	5,598	ACS
Kaliss (CP–40)	5,000	ACS
Little (H–3)	6,480	ACS
Little (C–729 C2)	16,866	NCI
Little (C–1073 R)	19,263	NCI
Little (C–1074 R)	15,304	NCI
Little (C–1329)	22,008	NCI
Little et al. (No. 35)	6,500	JCC
Russell (EG–12D)	3,942	ACS
Sawin (EG–1D)	5,022	ACS
Sawin (C–281 C3)	13,856	NCI
Snell (CP–7C)	5,238	ACS
Snell (ED–14D)	3,780	ACS
Woolley (CIE–4D)	3,316	ACS

MARYLAND

1. Carnegie Institute of Washington (Baltimore):		
Flexner (CP–2D)	3,403	ACS
Flexner (CP–2Ds)	1,597	DRMF
Flexner (C–550 C2)	6,700	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

MARYLAND—continued

2. Johns Hopkins University (Baltimore):		
Baetjer (C–603 C2)	$14,310	NCI
Bang (C–1230)	6,480	NCI
Colowick (MET–5)	8,700	ACS
Firor (C–356 C3)	28,944	NCI
Friedenwald (MOR–5C)	4,644	ACS
Friedenwald (C–770 C2)	6,156	NCI
Hellerman (C–392 C4)	15,000	NCI
Layton (CP–26A)	6,000	ACS
Long and Schoenbach (BI–3D)	15,000	ACS
Lowe (F–78)	(2)	ACS
McElroy (C–377 C3)	4,212	NCI
Mayer (PR–10B)	6,000	ACS
Morgan (C–336 C3)	14,094	NCI
Morgan (C–393 C3)	27,216	NCI
Mirick (C–1067 C)	11,210	NCI
Richter (CS–8A)	11,340	ACS
Rosenfeld (C–6D)	(1)	ACS
Scott (CIE–11B)	7,500	ACS
Scott (INSTR 45B)	9,000	ACS
Strong (PH–11)	6,480	ACS
Sullivan (MA–8B)	(1)	ACS
TeLinde and Scott (CPF–3B)	4,644	ACS
Wilkins (CIE–12B)	10,500	ACS
3. University of Maryland (College Park):		
Drake and Reeve (C–430 C3)	7,560	NCI
Figge (C–845 C2)	7,649	NCI
Woods (C–610 C)	6,800	NCI
4. National Cancer Institute (Bethesda):		
Hammer (BAF–6)	(2)	ACS

MASSACHUSETTS

1. Amherst College (Amherst):		
Hinton (CP–17B)	5,101	ACS
Kidder (N–2C)	6,000	ACS
Plough (EG–23B)	2,600	ACS
2. Beth Israel Hospital (Boston):		
Persky (DRF–54)	(2)	DRMF
Tobin (DRF–57)	(2)	DRMF
3. Boston Dispensary (Boston):		
Thannhauser (E–17C)	8,100	ACS
4. Boston University (Boston):		
Gensler (CBC–6A)	5,724	ACS
Lemon (C–930 C)	16,350	NCI
Lutz (C–1287)	6,500	NCI
5. Children's Medical Center (Boston):		
Farber (C–390 C4)	21,600	NCI
Farber (C–937 C)	30,000	NCI
6. Evans-Massachusetts Memorial Hospitals (Boston):		
Crockett (DRF–44)	(2)	DRMF
7. Free Hospital for Women (Brookline):		
Smith (S–13A)	5,750	ACS
Smith (C–1092 C)	900	NCI
8. Harvard University (Cambridge):		
Albright (EEP–3D)	5,214	ACS
Aub (C–4D)	12,000	ACS
Aub (INSTR 44B)	95,000	ACS
Campagna-Pinto (F–86)	(2)	ACS
Castle (C–1323)	4,369	NCI
Folch-Pi (PR–2C)	7,800	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

MASSACHUSETTS—continued

8. Harvard University—Continued		
Gates (C–1047 C)	$9,818	NCI
Greep (EEP–13A)	10,487	ACS
Hall (F–79)	[2]	ACS
Means (EEP–2D)	6,638	ACS
Means (C–313 C4)	30,615	NCI
Nathanson (C–1048 C)	6,182	NCI
Seligman (C–312 C5)	30,000	NCI
Smith (CPB–8C)	1,200	ACS
Stare (C–1115)	6,423	NCI
Stare & Geyer (C–722 C2)	20,000	NCI
Steinberg (F–95)	[2]	ACS
Thimann (BO–6D)	[1]	ACS
Warren (GPM–76)	18,295	AEC
Warren (C–301 C4)	14,884	NCI
Wetmore (BO–16B)	7,500	ACS
Wislocki (C–3D)	14,000	ACS
Zamcheck (DRSF–18)	[2]	ACS
9. VII International Cancer Congress—American Association for Cancer Research (Boston):		
Aub (C–1278)	5,000	NCI
10. Marine Biological Laboratory (Woods Hole):		
Packard and Failla (R–7B)	500	ACS
11. Massachusetts General Hospital (Boston):		
Aub (C–558 C2)	15,712	NCI
Aub and Zamecnik (E–16B)	11,232	ACS
Bauer (INSTR–16C)	100,000	ACS
Henneman (DRF–47)	[2]	DRMF
Klein (F–92)	[2]	ACS
Lipmann (C–823 C)	11,448	NCI
Selverstone (DRSF–13)	[2]	ACS
12. Massachusetts Institute of Technology (Cambridge):		
Beers (F–83)	[2]	ACS
Bolt and Ballantine (C–1129 R)	22,000	NCI
Loofbourow (PH–1D)	12,528	ACS
Loofbourow (PH–9B)	20,166	ACS
Robertson (F–72A)	[2]	ACS
Snell (F–73A)	[2]	ACS
Trump (INSTR–29B)	20,000	ACS
Vallee (F–41)	[2]	ACS
13. Mount Holyoke College (South Hadley):		
Smith (C–988 C)	3,300	NCI
14. New England Center Hospital (Boston):		
Dameshek (CPB–16)	3,348	ACS
Stanley (C–1196)	5,431	NCI
Stefanini (DRSF–14)	[2]	ACS
Sweet and Selverstone (C–1346)	18,554	NCI
15. New England Deaconess Hospital (Boston):		
Hicks (C–1042 C)	8,343	NCI
16. Peter Bent Brigham Hospital (Boston):		
Hirsch (DRF–48)	[2]	DRMF
17. Polaroid Corporation (Cambridge):		
Land (INSTR–30C)	30,000	ACS
18. Pratt Diagnostic Hospital (Boston):		
Rosenthal (DRF–30A)	[2]	DRMF
19. Smith College (Northampton):		
Blakeslee (C–796 C2)	9,390	NCI
20. Thorndike Memorial-Boston City Hospital (Boston):		
Ley (DRF–8A)	[2]	DRMF

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

MASSACHUSETTS—continued

21. Tufts College (Medford and Boston):		
Bonner (DRF–3A)	[2]	DRMF
Christensen (C–1268)	$9, 180	NCI
Fishman (C–915 C)	7, 500	NCI
Homburger (INSTR–31C)	50, 000	ACS
Homburger (DRIR 78)	25, 000	DRMF
Homburger (C–914 C)	19, 736	NCI
Rapport (C–410 C3)	10, 152	NCI
Shen (CPB–15A)	5, 778	ACS
Shen (DRSF–16)	[2]	ACS
22. Wellesley College (Wellesley):		
Austin (C–689 C2)	2, 355	NCI
Jones (C–821 C2)	4, 866	NCI
Wilson (EG–26B)	630	ACS
23. Worchester Foundation for Experimental Biology (Shrewsbury):		
Pincus (DRIR–61)	9, 500	DRMF
Pincus (C–321 C3)	20, 410	NCI

MICHIGAN

1. Detroit Institute for Cancer Research (Detroit):		
Denues (C–1151)	8, 370	NCI
Johnson (C–928 C)	6, 000	NCI
Simpson (INSTR–17C)	25, 000	ACS
Simpson (C–556 C2)	7, 500	NCI
2. Harper Hospital (Detroit):		
Reynolds et al (R–2C)	[1]	ACS
3. Michigan State College (East Lansing):		
Mack (C–256 C3)	9, 400	NCI
Meites (H–2)	5, 600	ACS
Tukey and Lucas (CH–1)	6, 250	ACS
Wolternick and Reineke (GPB–7)	15, 120	AEC
Wynd (V–13A)	6, 000	ACS
4. University of Michigan (Ann Arbor):		
Baker and Whitaker (C–768 C2)	9, 000	NCI
Bethell (GPM–80)	202, 500	AEC
Bethell (C–1002 C)	8, 348	NCI
Falls et al (EG–22B)	[1]	ACS
Gomberg and Hodges (GPP–3)	5, 885	AEC
Lerner (MET–1)	5, 000	ACS
Lerner (C–1133)	8, 748	NCI
Pollard (C–1120)	5, 000	NCI
Wheeler (C–1071 C)	6, 666	NCI
Wheeler (C–1334)	4, 692	NCI

MINNESOTA

1. University of Minnesota (Minneapolis):		
Barnum (V–5D)	7, 281	ACS
Bittner (EG–17D)	5, 000	ACS
Bittner (EG–18D)	10, 000	ACS
Bittner (C–372 C3)	21, 925	NCI
Diehl (INSTR–49A)	10, 000	ACS
Diehl (INSTR–54)	25, 000	ACS
Ferguson (DRF–18A)	[2]	DRMF
Glick (C–294 C3)	9, 000	NCI
Hitchcock (C–1218)	7, 685	NCI
Huseby (CPF–4B)	7, 000	ACS
Kirschbaum (BI–10A)	4, 725	ACS
Kirschbaum (C–347 C5)	6, 750	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

MINNESOTA—continued

1. University of Minnesota—Continued		
Kolthoff (C–721 C2)	$15,714	NCI
Lifson (IS–8A)	8,140	ACS
Mason (C–1171)	8,023	NCI
Moore (C–552 C2)	20,322	NCI
Newberry (F–77A)	(2)	ACS
Niazi (DRF–27A)	(2)	DRMF
Reed (EG–24B)	6,925	ACS
Reed (C–720 C2)	3,978	NCI
Syverton (V–6D)	(1)	ACS
Syverton (C–725 C2)	14,711	NCI
Visscher (N–12)	3,250	ACS
Wangensteen (C–298 C4)	18,582	NCI
Wattenberg (F–82)	(2)	ACS
Wild (C–1244)	14,040	NCI

MISSOURI

1. Midwest Research Institute (Kansas City):		
Goodson (C–527 C2)	9,633	NCI
Hoehn (C–802 C)	13,570	NCI
2. University of Missouri (Columbia):		
Bernstein (F–85)	(2)	ACS
Faberge (C–990 C)	2,000	NCI
Green (C–1131)	5,184	NCI
Mazia (E–9D)	5,200	ACS
Stadler (EG–25B)	3,348	ACS
Thomas (C–824 C)	10,000	NCI
Thomas (C–1327)	10,000	NCI
3. St. Louis University (St. Louis):		
Bauer (C–707 C2)	6,300	NCI
Wade (C–987 CR)	8,175	NCI
4. Washington University (St. Louis):		
Bregoff (PF–16A)	(2)	ACS
Commoner (V–9a)	5,400	ACS
Cori (E–25A)	8,100	ACS
Falzone (F–66A)	(2)	ACS
Gutsche (C–989 C)	8,748	NCI
Lansing (C–15A)	7,992	ACS
Lansing (C–15)	(1)	DRMF
Loeb (DRF–51)	(2)	DRMF
Lowry (C–11B)	12,000	ACS
Moore (INSTR–32C)	39,000	ACS
Moore (DRIR–44)	(1)	DRMF
Ogura (C–1368)	4,621	NCI
Roberts (C–1245)	13,000	NCI
Silberberg and Silberberg (N–7B)	3,500	ACS

NEBRASKA

1. University of Nebraska (Lincoln and Omaha):		
Olson (C–1369)	6,480	NCI
Sluter (DRIR–62)	10,000	DRMF

NEVADA

1. University of Nevada (Reno):		
Jones (DRIR–69)	5,000	DRMF

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

NEW JERSEY

1. Princeton University (Princeton):		
Bonner (MOR–16)	$2,000	ACS
Frankhauser (MOR–15)	6,642	ACS
Jacobs (BO–18A)	3,000	ACS
Jacobs (BO–18s)	(1)	DRMF
2. Rutgers University (New Brunswick):		
Allison (CP–23B)	5,000	ACS
Allison (INSTR–51A)	25,000	ACS
Allison (DRIR–53)	10,000	DRMF
Allison (DRIR–77)	5,000	DRMF
Allison (C–1335)	15,000	NCI
Nickerson (CP–28A)	4,428	ACS

NEW YORK CITY

1. ACS—New York City Cancer Committee:		
N. Y. C. C. C. (DRIR–64) 250,000 earmarked for ACS research program.		DRMF
2. American Museum of Natural History:		
Breder (H–4)	5,000	ACS
Breder (INSTR–42B)	(1)	ACS
Breder (DRIR–58)	10,000	DRMF
Breder (DRIR–73)	15,000	DRMF
3. Columbia University:		
Barth (MOR–2C)	6,200	ACS
Berg (C–632 C2)	7,560	NCI
Chargaff (PR–1D)	7,000	ACS
Clarke et al (CIE–3D)	34,715	ACS
Curth (CS–6A)	2,500	ACS
Dische (PR–16)	4,000	ACS
Dunn (EG–5D)	2,800	ACS
Engle and Taylor (CPF–1C)	9,000	ACS
Gang (C–1247–F–1843)	540	NCI
Gelhorn (BI–1C)	9,000	ACS
Gorbman (C–416–C2)	1,800	NCI
Grinnell (C–1337)	3,456	NCI
Haagensen (DRIR–56)	25,000	DRMF
Haagensen (C–428 C3)	20,381	NCI
Howes (C–286 C3R)	5,500	NCI
Hudson (DRSF–7)	(2)	ACS
Jailer (DRSF–8)	(2)	ACS
Jailer (S–12A)	4,158	ACS
Levy (C–1109 R)	2,997	NCI
Loeb (CPB–11B)	6,912	ACS
Murray (CP–4C)	(1)	ACS
Rappleye (INSTR–18C)	50,000	ACS
Rittenberg (IS–2D)	9,504	ACS
Ryan (BO–13C)	3,000	ACS
Tanenbaum (PF–14A)	(2)	ACS
Twombly (No. 89)	5,000	JCC
Twombly (C–800 C2)	17,589	NCI
4. Cornell University Medical School:		
Cattell (BI–2C)	4,500	ACS
du Vigneaud (E–27A)	(1)	ACS
Kennedy (DRF–6A)	(2)	DRMF
Kidd (V–2D)	12,000	ACS
Kidd (C–284 C4)	25,000	NCI
Riker (MA–7B)	8,468	ACS
Tumor Clinic (No. 85)	4,000	JCC
5. Fordham University:		
Berger (C–492 C2)	2,160	NCI
Cerecedo (DRIR–41)	(1)	DRMF
Cerecedo (C–685 C2)	9,000	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

NEW YORK CITY—continued

6. Harlem Hospital:		
Wright (DRIR–50)	$10,000	DRMF
Wright (C–629 C2)	20,000	NCI
7. Manhattan Eye, Ear and Throat Hospital:		
Buschke (C–1008 C)	6,480	NCI
8. Memorial Hospital Center:		
Adair and Escher (C–476 C2)	15,400	NCI
Bader (DRF–1A)	[2]	DRMF
Becker (DRF–40)	[2]	DRMF
Bodansky (C–676 C2)	10,000	NCI
Bodansky (C–1351)	6,000	NCI
Brown (C–471 C2)	25,760	NCI
Burchenal (DRSF–2)	[2]	ACS
Capeci (DRF–43)	[2]	DRMF
Dobriner (S–4C)	2(0,000	ACS
Eliel (DRSF–3)	[2]	ACS
Escher (DRSF–4)	[2]	ACS
Ewing (BAF–5)	[2]	ACS
Fath (DRF–46)	[2]	DRMF
Gallagher (C–440 C2)	39,009	NCI
Hollander (DRF–49)	[2]	DRMF
Karnofsky (DRSF–9)	[2]	ACS
Koch (DRF–50)	[2]	DRMF
Mellors (DRSF–11)	[2]	ACS
Moore and Stock (C–1355)	20,000	NCI
Pearson (DRSF–12)	[2]	ACS
Rawson (EEP–14D)	10,000	ACS
Rawson (GPM–36)	40,000	AEC
Rawson et al. (C–310 C6)	16,956	NCI
Rawson et al. (C–925 C2)	20,000	NCI
Rawson and Tagnon (C–1144)	8,910	NCI
Rhoads (INSTR–10D)	250,000	ACS
Rhoads (INSTR–33B)	40,000	ACS
Rhoads (Instr–52)	50,000	ACS
Rhoads and Mellors (C–1345)	10,000	NCI
Robbins (DRF–29A)	[2]	DRMF
Shulman (DRF–32A)	[2]	DRMF
Sonenberg (F–55A)	[2]	ACS
Southam (DRF–33A)	[2]	DRMF
Stock and Biesele (C–678 C2)	6,912	NCI
Stock & Burchenal (C–679 C2)	7,581	NCI
Stock and Karnofsky (C–675 C2)	10,044	NCI
Stock and Philips (C–415 C2)	30,000	NCI
Talbot (F–12B)	[2]	ACS
Woodward (GPM–42)	2,700	AEC
9. Montefiore Hospital:		
Bauman (C–991 C)	5,616	NCI
Lazzio and Stern (GPM–93)	30,000	AEC
Seidlin (C–397 C3)	10,000	NCI
Zimmerman (C–1082)	10,000	NCI
10. Mount Sinai Hospital:		
Feitelberg and Klemperer (C–7C)	3,780	ACS
Feitelberg and Loevinger (R–10A)	3,750	ACS
Loevinger (GPP–9)	5,100	AEC
Snapper (C–1333)	4,300	NCI
11. New York Botanical Garden:		
Robbins (BO–9C)	6,500	ACS
12. New York Medical College—Flower Hospital:		
Kleiner and Black (DRIR–57)	8,500	DRMF

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

NEW YORK CITY—continued

13. New York University:		
Carter (DRIR–59)	$10,000	DRMF
de Bodo (EEP–15A)	7,652	ACS
Goldfeder (DRIR–55)	4,000	DRMF
Goldfeder (C–417 C2)	9,231	NCI
Goldsmith and Nigrelli (C–388 C2)	7,938	NCI
Kopac (C–843 C2)	9,579	NCI
Levy (PR–4C)	9,200	ACS
Marsland (C–807 C)	2,700	NCI
Ochoa (E–10C)	4,800	ACS
Ratner (E–21B)	5,076	ACS
14. New York Zoological Society:		
Gordon (C–297 C3)	19,834	NCI
15. Rockefeller Institute for Medical Research:		
Daly (F–51B)	[2]	ACS
Opie (No. 49)	8,000	JCC
Vanamee (F–48B)	[2]	ACS
16. St. Vincent's Hospital:		
Rottino (INSTR–46B)	15,000	ACS
Rottino (C–368 C4)	6,000	NCI
17. Sloan-Kettering Institute:		
Rhoads (DRIR–76)	38,000	DRMF

NEW YORK STATE

1. Albany Medical College (Albany):		
Gorham and Faloon (C–908 C)	3,024	NCI
Wright and Wolfe (C–1105)	7,344	NCI
2. Bassett Hospital (Cooperstown):		
Porter (C–1027 C)	4,903	NCI
3. Brooklyn Botanic Garden (Brooklyn):		
Black (BO–1C)	11,135	ACS
4. Brooklyn College (Brooklyn):		
Albaum (BO–2C)	3,500	ACS
Kaye (C–1140)	6,350	NCI
Tittler (CP–33A)	3,500	ACS
5. Buffalo General Hospital (Buffalo):		
Egan (DRF–17A)	[2]	DRMF
6. University of Buffalo (Buffalo):		
Golden (C–1170)	10,443	NCI
Paine (C–867C)	7,000	NCI
Talbott (CIE–10C)	6,000	ACS
7. Carnegie Institute of Washington (Cold Spring Harbor):		
Demerec (EG–21C)	7,400	ACS
8. Cornell University (Ithaca):		
Morrison (R–12)	5,967	ACS
9. Hickrill Chemical Reserve Foundation (Katonah):		
Doering (C–1130)	10,000	NCI
10. Jewish Hospital (Brooklyn):		
Sobel (DRIR–52)	10,000	DRMF
11. Nassau Hospital (Mineola):		
Ponder (CPB–14A)	1,000	ACS
12. New York State College of Agriculture (Ithaca):		
Smith and Srb (C–1256)	5,864	NCI
Steward (C–1357)	11,000	NCI
13. State University of New York Medical Center at Syracuse University (Syracuse):		
Bass and Tepperman (C–1311)	5,076	NCI
Neish (BAF–4)	[3]	ACS
Tepperman (EEP–9B)	3,672	ACS
Westerfeld (N–10A)	6,000	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

NEW YORK STATE—continued

14. Polytechnic Institute of Brooklyn (Brooklyn):		
Fankuchen (V–10A)	$3,888	ACS
Neuberg (C–16)	4,000	ACS
15. University of Rochester (Rochester):		
Bloor (C–669 C2)	10,622	NCI
Bloor, Hodge, and Stotz (C–350 C3)	6,318	NCI
Caplin (C–755 C2)	3,662	NCI
Clark (No. 82)	1,600	JCC
Dounce (C–994 C)	4,995	NCI
Holtfreter (CP–8C)	6,156	ACS
Keutmann (C–1003 C)	10,000	NCI
Kochakian (S–9C)	4,292	ACS
Kochakian (S–10B)	4,904	ACS
McCann (C–739 C2)	22,399	NCI
Mider (CS–2C)	8,000	ACS
Mider (C–1301)	3,696	NCI
Morgan (V–11A)	5,400	ACS
Morton (DRIR–51)	20,000	DRMF
Morton and Mider (INSTR–57)	20,000	ACS
Steward (BO–15B)	(1)	ACS
Tarbell (C–329 C3)	9,828	NCI
16. Syracuse University (Syracuse):		
Lein (EG–28A)	3,550	ACS
17. Trudeau Foundation (Saranac Lake):		
Vorwald (DRIR–75)	10,000	DRMF

NORTH CAROLINA

1. American Assoc. for Cancer Research (Chapel Hill):		
Hooker (INST–4A)	5,000	ACS
2. Duke University (Durham):		
Beard (V–14A)	10,000	ACS
Beard (V–14)	(1)	DRMF
Beard (C–972 C)	20,000	NCI
Bloor (DRF–42)	(2)	DRMF
Engel (EEP–10B)	5,350	ACS
Rundles (BI–9A)	9,180	ACS
Schwartz (DRSF–15)	(2)	ACS
Stoddard (C–1211)	2,646	NCI
Willett (DRF–39)	(2)	DRMF
3. University of North Carolina (Chapel Hill):		
Hooker (No. 52)	3,000	JCC

NORTH DAKOTA

1. University of North Dakota (Grand Forks):		
Ruth (CS–9A) (also at University of Cincinanti)	6,858	ACS

OHIO

1. University of Cincinnati (Cincinnati):		
Logan (IS–9A)	6,000	ACS
Ruth (CS–9A) (also at University of North Dakota)	1,372	ACS
Stevens (C–924 C)	10,000	NCI
Vilters (C–1134)	7,895	NCI
2. Kenyon College (Gambier):		
Thornton (MOR–13A)	1,500	ACS
3. Ohio State University (Columbus):		
Doan and Hoster (INSTR–56)	25,000	ACS
Hoster (C–1084 C)	8,000	NCI
Newman (C–483 C2)	4,700	NCI
Newman (C–829 C)	8,100	NCI
Schlumberger (C–490 C2)	3,200	NCI
Towbin (C–819 C)	3,834	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

OHIO—continued

4. Western Reserve University (Cleveland):		
Eckel (F–65A)	[2]	ACS
Hirschmann (S–8D)	$4, 536	ACS
Katz (F–80)	[2]	ACS
Weisberger (CPB–17)	6, 966	ACS
Wood (IS–5D)	15, 000	ACS

OKLAHOMA

1. Oklahoma A. & M. Coll. Research Foundation (Stillwater):		
Jones (C–984 C)	3, 748	NCI
2. University of Oklahoma (Oklahoma City):		
Everett (CPB–12B)	[1]	ACS
Hopps (CP–25A)	5, 000	ACS
Richter (CP–30A)	3, 134	ACS

OREGON

1. Oregon State College (Corvallis):		
Dornfeld (C–13A)	3, 996	ACS
2. University of Oregon (Portland):		
Frisch (CPB–13A)	2, 000	ACS
Grossman (C–1206)	5, 400	NCI
Osgood (CP–29A)	6, 000	ACS
Osgood (C–820 C2)	11, 016	NCI

PENNSYLVANIA

1. Duquesne University (Pittsburgh):		
Gawron (C–1347)	3, 600	NCI
Pauson (C–1195)	3, 500	NCI
2. Institute for Cancer Research (Philadelphia):		
Bennett (C911C)	9, 000	NCI
Briggs (C–913)	5, 000	NCI
Creech (CBC–2C)	12, 673	ACS
Creech (PR–13A)	7, 250	ACS
Lavine (C–1252)	18, 620	NCI
Medes (C–1250)	20, 892	NCI
Miller (C–910 C)	7, 992	NCI
Patterson (C–1253)	18, 080	NCI
Reimann (INSTR–21C)	150, 000	ACS
Reimann (C–315 C3)	19, 660	NCI
Schultz (EG–29A)	9, 000	ACS
Stekel (C–1251)	15, 400	NCI
Toennies (C–1249)	15, 815	NCI
Weinhouse (E–30A)	5, 120	ACS
Weinhouse (C–1299)	9, 676	NCI
White (BO–7C)	9, 000	ACS
3. Jeanes Hospital (Philadelphia):		
Bothe (C–296 C4)	3, 108	NCI
4. Jefferson Medical College (Philadelphia):		
Paxchkis and Cantarow (S–3D)	6, 631	ACS
Pearlman (C–295 C)	5, 994	NCI
Rutman (C–1307)	7, 500	NCI
Schneider (C–1255)	6, 480	NCI
Stasney (C–1049C)	5, 346	NCI
5. Pennsylvania Hospital (Philadelphia):		
Tocantins (C–509 C2)	14, 245	NCI
6. Pennsylvania State College (State College):		
Beck (C–648 C2)	2, 300	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

PENNSYLVANIA—continued

7. University of Pennsylvania (Philadelphia):		
Balant PF–15A	(2)	ACS
Blakemore (DRF–41)	(2)	DRMF
Breedis (C–1116)	$5, 346	NCI
Dohan (S–11A)	5, 000	ACS
Ehrenstein (S–7D)	4, 000	ACS
Ehrenstein (S–7C)	(1)	DRMF
Ehrenstein (C–757 C)	12, 312	NCI
Flesch (DRSF–5)	Fellow	ACS
Goddard (BI–6B)	7, 500	ACS
Coman (C–731 C2)	11, 502	NCI
Goddard et al. (C–488 C2)	14, 968	NCI
Gyorgy (N–8A)	(1)	ACS
Gyorgy (C–1197)	11, 880	NCI
Gurin (C–1344)	13, 932	NCI
Hardy (DRSF–6)	(2)	ACS
Heilbrunn (C–411 C2)	9, 828	NCI
Horning (BI–7B)	7, 500	ACS
Jones (CH–2)	6, 804	ACS
Lucké (No. 93)	6, 800	JCC
Mescon (DRF–25A)	(2)	DRMF
Meyerhof (E–11C)	12, 846	ACS
Mudd (V–15A)	5, 000	ACS
Mudd (V–15)	(1)	DRMF
Pillsbury (CS–7A)	6, 000	ACS
Shorey (C–1266–F–2031)	540	NCI
Sonne (No. 61–22)	(2)	JCC
Whiting (C–741 C2)	3, 078	NCI
Williams, R. G. (CP–34A)	4, 968	ACS
Williams, W. J. (F–100)	(2)	ACS
Wilson (IS–4D)	15, 000	ACS
Wilson (IS–4Cs)	(1)	DRMF
Wilson (DRIR–54)	7, 000	DRMF
Wilson (C–1199)	5, 697	NCI
Wilson and Buchanan (C–1125)	10, 800	NCI
8. University of Pittsburgh (Pittsburgh):		
Danowski (DRIR–66)	10, 000	DRMF
Hofmann and Axelrod (N–4D)	3, 500	ACS
Hofmann and Axelrod (N–4Cs)	(1)	DRMF
Tarail (DRF–56)	(2)	DRMF
Wolken (F–101)	(2)	ACS
9. William H. Singer Memorial Research Laboratory (Pittsburgh):		
Grauer (C–1160)	6, 350	NCI
10. Smith, Kline, and French Laboratories (Philadelphia):		
Ullyot (C–1058 C)	10, 000	NCI
11. Temple University (Philadelphia):		
Menkin (C–279 C3)	8, 400	NCI
Spiegel-Adolf (C–447 C2)	5, 000	NCI
12. Wistar Institute of Anatomy and Biology (Philadelphia):		
Lewis (C–285 C3)	10, 800	NCI
Lewis (C–998 C)	16, 200	NCI

RHODE ISLAND

1. Brown University (Providence):		
Chase (R–8B)	3, 000	ACS
Fenton (N–9A)	4, 250	ACS
Fenton (C–983 C)	2, 014	NCI
Sherman (R–11)	3, 612	ACS
Wilson (C–510 C2)	12, 528	NCI

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

RHODE ISLAND—continued

2. Rhode Island State College (Kingston):		
Hartung (C–895 C2)	$600	NCI
3. Rhode Island State Department of Health (Providence):		
Kapnick (C–919 C)	2, 833	NCI

SOUTH CAROLINA

1. Medical College of State of South Carolina (Charleston):		
Lynch (C–474 C2)	9, 650	NCI

TENNESSEE

1. Meharry Medical College (Nashville):		
Hahn (GPM–48)	73, 000	AEC
2. University of Tennessee (Memphis):		
Alden (CP–24A)	3, 115	ACS
Erickson (C–1209)	8, 000	NCI
Sprunt (INSTR–22C)	15, 000	ACS
Sprunt (C–1207)	11, 826	NCI
Touster (C–1243)	4, 482	NCI
Van Middlesworth (N–11A)	3, 800	ACS
Van Middlesworth (N–11)	[1]	DRMF
Wood (PH–6B)	4, 000	ACS
Wood (C–1228)	4, 320	NCI
Zilversmit (E–33A)	5, 500	ACS
Zilversmit (E–33)	[1]	DRMF
3. Vanderbilt University (Nashville):		
McSwain (CIE–13A)	3, 879	ACS
Towery (C–1279)	2, 250	NCI

TEXAS

1. Baylor University (Dallas):		
Spurr (BI–11A)	13, 770	ACS
2. Foundation of Applied Research (San Antonio):		
Loefer (CBC–5A)	5, 400	ACS
3. Human Genetics Research (San Antonio):		
Jackson (C–735 C2)	4, 885	NCI
4. University of Texas (Austin, Galveston, and M. D. Anderson Hospital, Houston):		
Clark (INSTR–23C)	36, 000	ACS
Clark (DRIR–65)	16, 000	DRMF
Foster (E–23B)	5, 400	ACS
Oliver (HG–2D)	8, 640	ACS
Pomerat (CP–12C)	7, 000	ACS
Russell (C–1212)	3, 600	NCI
Sinclair (C–1100)	3, 240	NCI

UTAH

1. Salt Lake General Hospital (Salt Lake City):		
Palmer (F–60A)	[2]	ACS
2. University of Utah (Salt Lake City):		
Davenport (E–19B)	[1]	ACS
Dougherty (CPB–10B)	6, 264	ACS
Eichwald (C–999 C)	6, 500	NCI
Jensen (DRF–58)	[2]	DRMF
Marcus (E–36)	3, 000	ACS
Newby (EG–30A)	1, 700	ACS
Newby (EG–30)	[1]	DRMF
Samuels (EEP–8B)	8, 572	ACS
Samuels and Reich (C–307 C3)	21, 513	NCI
Sayers (CIE–8C)	9, 868	ACS
Wintrobe (DRIR–70)	10, 000	DRMF
Wiswell (F–75A)	[2]	ACS

[1] Extended time.
[2] Fellowship.

Composite list of currently operating fellowships, grants-in-aid, and institutional research grants to cancer research from all sources—Continued

VERMONT

1. University of Vermont (Burlington):		
Novikoff (E–32A)	$5,400	ACS
Novikoff (E–32)	(1)	DRMF
Pearson (C–431 C3)	15,000	NCI

VIRGINIA

1. Medical College of Virginia (Richmond):		
Clayton (C–17)	1,000	ACS
Williams (INSTR–40B)	(1)	ACS
Williams (C–1143)	7,800	NCI
Young (C–1139)	7,344	NCI
2. University of Virginia (Charlottesville):		
Chanutin (C–269 C2)	11,880	NCI
Lutz (C–340 C4)	10,000	NCI
Speidel (CP–32A)	540	ACS

WASHINGTON

1. Seattle University (Seattle):		
Schmid (DRIR–79)	2,000	DRMF
2. State College of Washington (Pullman):		
Anderson (PH–7B)	(1)	ACS
Caldecott (PF–12A)	(2)	ACS
3. University of Washington (Seattle):		
Bennett (C–12A)	9,000	ACS
Blandau (C–1104)	4,968	NCI
Chipps and Ricker (INSTR–25B)	(1)	ACS
Demarsh (C–1332)	13,343	NCI
McDonald (C–1326)	2,991	NCI
Moore (DRIR–9)	(1)	ACS
Ralph (C–658 C2)	4,752	NCI
Sauvage (DRF–55)	(2)	DRMF

WEST VIRGINIA

1. Marshall College (Huntington):		
Scholl (DRIR–67)	7,500	DRMF

WISCONSIN

1. Marquette University (Milwaukee):		
Laskowski (E–35)	4,750	ACS
2. University of Wisconsin (Madison):		
Baumann (PR–7D)	4,300	ACS
Cohen (C–822 C)	13,662	NCI
Huskins (BO–14B)	(1)	ACS
Huskins (BO–14As)	(1)	DRMF
Johnson (MET–3)	3,758	ACS
Lardy (MET–2)	7,200	ACS
McGilvery (E–28A)	3,078	ACS
Meyer and McShan (C–1091 C)	7,020	NCI
Miller and Rusch (C–355 C4)	12,258	NCI
Orsini (C–1276–F–1748)	398	NCI
Potter (E–13D)	7,500	ACS
Potter (C–646 C2)	3,240	NCI
Riker (BO–10C)	6,250	ACS
Rusch (N–5C)	7,000	ACS
Rusch (PR–8D)	6,200	ACS
Rusch (N–5Bs)	(1)	DRMF
Rusch (PR–8Cs)	(1)	DRMF
Rusch DRIR–71	10,000	DRMF
Rusch C–828 C2	3,866	NCI
Rusch and Miller (No. 71)	1,500	JCC
Skoog (BO–19A)	4,000	ACS

[1] Extended time.
[2] Fellowship.

Summary of composite list currently operating grants-in-aid and institutional research grants to cancer research from all sources

[Prepared from data available Oct. 1, 1950]

	American Cancer Society		Atomic Energy Commission, grants-in-aid	Damon Runyon Memorial Fund		Jane Coffin Childs Memorial Fund, grants-in-aid	National Cancer Institute, grants-in-aid	Total
	Grants-in-aid	Institutional research grants		Grants-in-aid	Damon Runyon institutional research			
Alabama	$42,172				$10,000		$29,688	$81,860
Arizona					6,000			6,000
Arkansas					10,000			10,000
California	111,421	$50,000	$40,382			$7,735	307,318	516,856
Colorado	15,125	20,000	19,000				21,990	76,115
Connecticut	58,035	6,000				48,930	77,778	190,743
District of Columbia	46,044	20,000				1,000	114,182	181,226
Florida	5,000						41,060	46,060
Georgia	12,640	13,000					19,116	44,756
Illinois	153,160	150,000	27,920			5,500	262,407	598,987
Indiana	21,900				45,000	4,000	30,658	101,558
Iowa	10,000						9,730	19,730
Kansas	11,000						19,710	30,710
Kentucky	4,860							4,860
Louisiana	4,500	38,000			15,000		46,362	103,862
Maine	51,817					6,500	87,297	145,614
Maryland	84,211	9,000		$1,597			156,331	251,139
Massachusetts	152,296	295,000	18,295		34,500		350,608	850,699
Michigan	22,850	25,000	223,505				73,724	345,079
Minnesota	52,321	35,000					140,730	228,051
Missouri	45,540	39,000					91,231	175,771
Nebraska					10,000		6,480	16,480
Nevada					5,000			5,000
New Jersey	21,070	25,000			15,000		15,000	76,070
New York City	199,515	405,000	77,800		120,500	17,000	416,644	1,236,459
New York State	88,364	20,000			40,000	1,600	142,524	292,488
North Carolina	29,530					3,000	22,646	55,176
North Dakota	6,858							6,858
Ohio	35,374	25,000					45,729	106,103
Oklahoma	8,134						3,748	11,882
Oregon	11,996						16,416	28,412
Pennsylvania	127,792	150,000			17,000	6,800	348,841	650,433
Rhode Island	10,862						17,975	28,837
South Carolina							9,650	9,650
Tennessee	20,294	15,000	73,000				30,878	139,172
Texas	40,210	36,000			16,000		11,725	103,935
Utah	29,404				10,000		28,013	67,417
Vermont	5,400						15,000	20,400
Virginia	1,540						37,024	38,564
Washington	9,000				2,000		12,711	23,711
West Virginia					7,500			7,500
Wisconsin	54,036				10,000	1,500	40,444	105,980
Total	1,604,271	1,376,000	479,902	1,597	373,500	103,565	3,101,368	7,040,203

CANCER DEATHS

Mr. RUNYON. This is a chart which has already been put in the record, showing the prediction of cancer deaths in this country through the year 2000 if present trends continue.

Senator HILL. That shows a growth from 41,000 in the year 1900 to a forecast of 415,000 in the year 2000.

Let me ask you this in connection with that chart: Has that growth, do you think, been really so rapid? Or does the chart show as it does due to the fact that maybe in past years doctors were not able to detect the disease as well as now?

Mr. RUNYON. I think that is an answer that a doctor could give you better than I could.

Senator HILL. We will ask Dr. Rhoads about that.

Have you prepared that chart in such a way that we could put it in our record?

Mr. RUNYON. It is in the record. All these charts are in the record, Senator.

Senator HILL. All these charts? Very well, then.

Mr. RUNYON. This shows the amount of money which is available for cancer research, excluding fellowships, through the National Cancer Institute and through the American Cancer Society, in the current year. There are applications for $5,300,152 in the National Cancer Institute. They were able to take care of $3,131,175 of that, about 59 percent. The American Cancer Society had applications for $6,154,036 and were able to handle only $3,149,629, or 51 percent.

Senator HILL. That is a good chart. As I remember, when Dr. Heller, the Director of the National Cancer Institute, was here a few days ago, he gave us some of that data. But we are also happy to have if from you, and it will go right in the record.

Mr. RUNYON. Yes, sir. Now, this chart indicates the growth in the total research funds for major agencies that have been made available from 1947 through 1951. They are keyed down here by color and also by diagram.

The first witness we have, Senator Hill, is Dr. Rhoads, who is going to talk about the institutional grants program and the importance of having the National Cancer Institute undertake that sort of research support.

Senator HILL. All right. Fine.

Doctor, you may proceed in your own way. You are the Director of the Memorial Cancer Center in New York, are you not?

INSTITUTIONAL RESEARCH PROGRAMS

Dr. RHOADS. Yes, sir.

I have been asked to talk to you, Senator, on what is called the institutional research program. By definition, that program is the allocation of substantial sums to major institutions to allow the coordination of work of various types designed to achieve better control of cancer in man.

The most effective testimony to the usefulness of a procedure is what it turns out. It is my belief that the program, which has been maintained and includes the National Cancer Institute as the major institution has made very substantial advances in the control of cancer in man, which may lead to its prevention in time.

RESEARCH ADVANCES

These advances can be divided into three main groups. The first group is advances through research in the earlier diagnosis of cancer in the population at large, the diagnosis of cancer at a stage when it is still easily curable by presently available procedures.

One method of establishing early diagnosis is to examine under the microscope the fluids which can be obtained from the openings of the body. These fluids contain cells which drop off from the surfaces of the linings of these cavities. These cells may be stained and examined under the microscope, and if cancer cells are there they can be detected.

Their detection at present is a very laborious job. If, for example, one were to examine women going through the Grand Central Station, one in 330 would be found to have an early cancer of the womb. But to make this diagnosis would require the full time of a skilled pathologist for 1 month, to examine the smears under the microscope. Therefore methods have been sought which would allow us to facilitate and mechanize this type of examination, because the pathologists will not work for a month looking at negative smears.

CANCER DIAGNOSIS MACHINE

It has been possible to devise a method which allows us to light up the cancer cell. Cancer cells are lighted up here in this photograph. The normal-cells are shown as much more dimly lighted.

Senator HILL. Is that an X-ray picture?

Dr. RHOADS. No, sir; this is a photograph taken through the microscope of cells so treated that the cancer cells show up in this manner. This is the difference between a 25-watt bulb and a 75-watt bulb. It can be picked up mechanically, can be amplified electronically, and the cancer cells can be found by giving a signal to the operator of the machine.

Senator HILL. How long, Doctor, have you had that mechanism?

Dr. RHOADS. It operated last night for the first time. It has been 3 years in the building. It has required the cooperation of the American Optical Co., of the Polaroid Corp., of the British laboratories working on special microscopes, and of RCA. It has required finding a person inclined to work on this problem, inducing him to work on the problem, providing the support and the skilled technicians to bring this about. It has been an expensive procedure. We believe it to be worth while.

Senator HILL. You speak of expense, now. We are thinking in terms of money, because that is the purpose, really, of your visit, to get additional funds. Have you any idea how much this discovery or invention has cost?

RESEARCH COSTS

Dr. RHOADS. Certainly not less than $500,000, if one brings to bear the various parts which compose the whole project. And to compose such a whole is the virtue of the institutional system. Because one can bring to bear the physicist, the mechanic, the man who is skilled in looking at cells through the microscope, the clinic, which examines patients who may have cancer of an early type to be diagnosed in this way. And this requires a very major coordinated program. But with such coordination, results can be achieved.

Now, the second group I refer to is the more adequate cure of cancer already developed.

Senator HILL. Excuse me 1 minute. Before you leave this machine, I suppose if that machine had been invented when they were writing the Bible it would have been put out as a miracle, almost.

Before you leave that machine, can you use that machine to discover the cells that are cancerous in nearly every part of the human body?

Dr. RHOADS. We believe, from the evidence, although more evidence is needed, that it can be applied to the diagnosis of cancer cells coming from essentially any opening of the body. That involves sputum for

cancer of the lung, washings of the large intestine for cancer of the large bowel, and we have evidence to favor that view at the present time, the discharge of the vagina for cancer of the womb, and possibly washings from the stomach for cancer of the stomach. The latter we are somewhat skeptical about now, for reasons that I won't go into. But we are satisfied that this kind of diagnosis, based upon the study of these fluids and their cellular content is important and is amply established by experience. It is picking up early cancer in the easily curable stage.

If this type of diagnosis procedure can be extended to apply to the population as a whole, we are satisfied that a great many lives can be saved. And this is a mechanical job. It is estimated that if 500 machines of this type were available, quoting the discoverer of the machine——

Senator HILL. Excuse me a moment, before you get away from that thought. Today, to discover cancer in the womb of a woman, we will say, you have to go in there and take a little tissue, do you not?

Dr. RHOADS. No, sir, this obviates the need for taking the tissue.

Senator HILL. I understand that. But without this machine, I mean, have you any other means other than taking the tissue, to make that discovery?

Dr. RHOADS. Without that technique which the machine involves, one must take out tissue, and one would have to do that to settle the final diagnosis anyway. This is a screening procedure to get suggestive evidence.

Senator HILL. In other words, if there is anything suspicious at all shown up by this machine, you would then take the next step?

Dr. RHOADS. Yes, sir. But the problem has been to eliminate the negative smears.

Senator HILL. I understand that to put all those many women in the hospital to get all that tissue and to have the pathologist operate the many, many slides would be quite a problem.

CLINICS FOR MACHINE DIAGNOSIS

Dr. RHOADS. They won't examine the slides. It is just too boring a job. Now, as I say, if the machine works as well as we believe it will, and if 500 were available, and suitable clinics were established, all the women in the country could have vaginal smears examined on an annual basis. I quote the discoverer. And I have not made the calculation.

It is that type of mass treating that all have been seeking.

Senator HILL. In other words, this machine promises to do for cancer a good deal of what the X-ray has done for tuberculosis?

Dr. RHOADS. We hope so. It will help, at least. This should run the examinations of 200 women a day as far as examining the smears is concerned, if it works properly. And I must qualify that, because we need more evidence. It looks good at the moment.

COST OF CANCER DIAGNOSIS MACHINE

Senator HILL. Have you any estimate, Doctor, as to the cost of the machines, if they were produced in—I cannot use the term "mass production," because you will not have that many. But what would be the cost of the machines after a year or two of time?

Dr. RHOADS. I would have to guess on that, Senator; I would guess something in the neighborhood of $1,000. It is might be $1,500.

I can make a point of this, however, RCA refused to go forward with this development on the grounds that they could not make enough money out if it; which is a perfectly legitimate position for a commercial concern. But this is why we have to seek your help in financing this type of operation. Because they would never sell enough machines to make it show on their stockholders' profit sheet.

Senator HILL. They must have enough to pay for the pilot plant, so to speak.

Dr. RHOADS. Yes, sir.

The second thing I would like to speak of is the area of research——

Senator HILL. Excuse me one minute. Would you say that this machine would most probably do in about 3 minutes what it would probably take one pathologist 3 days to arrive at?

Dr. RHOADS. I will have to make a quick mental calculation. It is estimated that this machine would do in a day what the pathologist would do in about three weeks. That is an estimate. And the pathologist would have to back-check the machine. But as long as the pathologist can be given potentially positive smears to look at, he will look at them.

RESEARCH ADVANCES ON CURES

The next area is the research area under institutional operation, which is allowing us to develop more effective means for curing cancer already developed, but still not widely scattered throughout the body. For practically every anatomic type of cancer, very significant advances are being made through research, of a variety of types. I will quote you one example. This is the advances which were made in the treatment and cure of cancer of the uterus, of the womb; and this refers to the neck of the womb as distinguished from the top of the womb. Among a thousand women who develop cancer of the neck of the womb, 1 in 330 will develop this disease, and under present cure rates, under 300 will be cured and the remainder will die.

So this is the present cure rate, called "old" here. Even a 50 percent improvement from the present figure to the perfect figure will give us this figure. We believe that can be attained. We believe we have attained this figure in the last 5 years. I say "believe," because about 3 years more must elapse before we have our final figures in. This is a new type of investigation. But it looks that way at the present time.

COORDINATED RESEARCH

It has been done, again, by the coordinated type of research made possible by the institutional grant. Surgeons have to be educated. Nurses have to be educated. Psychiatrists and biochemists, medical men, physicists, physiologists, must all be brought into the program of controlling the various phases required to bring a patient through major operations. And this coordination can be done through the type of program I referred to.

This applies not only to cancer of the womb, but to cancer of almost every other major site in the body. For example, for cancer of the voice box, which has extended beyond the voice box into the adjacent

tissues of the neck, cure rates 5 years ago were 17 percent. It looks as though we are attaining 56 percent today by this type of coordinated research. It has brought together the technical man and the chemist to control every detail of the treatment.

DESTRUCTION OF CANCER CELLS BY TRAINED VIRUS

The situation when the cancer has already scattered widely throughout the body and is not susceptible to mechanical removal requires some kind of a DDT that will kill the cancer cells and not the normal cells. We believe this can be achieved and to some extent has already been achieved as a principle, as I will demonstrate.

In the first place, there are little minute living organisms called viruses, which cause measles, and mumps, and poliomyelitis, and various diseases with which you are familiar. They will attack and destroy other types of cells, and these bacteriophage virus particles rush to attack the cells. This principle can be employed to train viruses to rush upon, to attack, and to destroy cancer cells in the experimental animal. And as a matter of fact, this research work has brought forward a method of using a trained virus to seek out, to attack, and to destroy cancer cells in fowl without harm to the fowl. The fowl can regularly be cured of their principal form of cancer. And this is the second cause of economic loss to animal husbandry, we are told. This is not to be regarded as possible today in human beings, although viruses are at hand which will seek out and injure cancer cells in human beings. This is still an experimental phase. But this principle seems to have been established in fowl and experimental animals.

Senator HILL. You hope you will be able to develop a virus that will do the job in the human being just as you have developed one that will do the job in the animal and in the chicken, in poultry?

Dr. RHOADS. Exactly. This is a very new principle. Once you get a new principle, you almost always can make it better.

CHEMICAL DESTRUCTION OF CANCER CELLS

Now, also chemicals have been found which will preferentially destroy cancer cells, in concentrations which will not destroy normal cells. Techniques have to be developed through this coordinated type of research which will allow us to measure the ability of chemicals to destroy one and not the other type of cell. It is possible to grow cancer cells, as shown on your left, and normal cells, as shown on your right, in the same test tubes. And these elongated structures are the normal and the cancer cells growing side by side, bathed by the same medium. And if a suitable chemical is added to this test tube, the cancer cells will curl up and die. There they are shown curling up and dying. That is without injury to the normal cells, on your right.

This is a test-tube experiment, but differentials of as great as 1,000 to 1 presently can be obtained in test-tube experiments between the sensitivity of the cancer and the normal cell growing at the same rate and side by side, which is a favorable indication of what research will do.

Not only can this be done in the test tube, but it can be done in the experimental animal. This shows a group of cancers implanted in animals growing rapidly, killing the animal here. In the treated cells, they have been cured.

CURE FOR LEUKEMIA BY ANTIVITAMINS

This is an animal experiment only. But compounds have been devised which under certain circumstances in very limited types of cancer in man appear to exert a similar adverse effect upon the cancer cells. I quote you the experiment with what are called antivitamins, described by the Lederle Co. and tested by Farber of Boston and others, which when used upon children with acute leukemia, seem to be able regularly to bring about essential restoration of health in about 50 percent of the instances. And this ability has increased with experience in the use of the compound. If children are not cured, their disease will recur and they become refractory to the compounds presently in use. But nevertheless these children can be restored essentially to health at the present time, their cancer cells made to disappear, all but a few, which will grow back. This is being done.

And finally we have other compounds which, in the treatment of children with acute leukemia have a similar effect. This child [indicating] was brought in dying, in one example. That was on November 11. And on the 6th of January, you see her restored essentially to health.

Now, when I hear a lot of talk about no progress in cancer research and no justification for spending money, I find it very hard to believe it, when I see this happening every day, even though it is not as much as we would like to have happen.

POSSIBLE CAUSE OF CANCER

Senator HILL. Let me ask you this, Doctor. You have made a most interesting statement. Have we done anything or been able to do anything up to date so far as getting at the cause, as it were? In other words, what is it? Have we been able to make any progress as to the cause for the cancer in the cells?

Dr. RHOADS. To answer that question, Senator, I will have to speak on much less completely substantiated facts. There is, in my opinion, very adequate evidence to justify the belief that cancer arises and continues its growth because of a basic disturbance in one type of chemical manufactured by the body in the manufacture of those substances we call hormones, of the sex type and the type that are formed by other glands of the body. There is every reason to believe this is true. There has been no method until recently, and the ones we have now are still inadequate, for defining and measuring precisely each detail of this chemical manufacture, and comparing the manufacture in the normal individual with that manufactured in the patient with cancer and before the cancer has developed. Methods are now coming to hand. Over ten years have been expended in this enterprise. It is still very inadequate. But at least we do have methods and we can make comparisons. So far we have satisfactory evidence that patients with cancer can be shown clearly and specifically to

have a disordered manufacture of these hormones, by acceptable chemical methods.

There is suggestive evidence that patients before the cancer is obvious have a similar disorder. It is hard to find patients ahead of time. These methods are very cumbersome and very ponderous and very time-consuming, but they are very unique.

REQUEST FOR CONTINUED CANCER RESEARCH

There is some reason to believe that patients who have the earliest type of precancerous change show a similar disorder, and there is hope that definition of the details of this disorder may allow us to correct it in times to come. This has not been done. But this is why we want your help.

Senator HILL. In other words, you want to continue these experiments right along with the other experiments to which you have referred here this afternoon?

Dr. RHOADS. Yes, sir.

DIETARY DEFICIENCY DISCUSSED

Senator HILL. Let me ask you, Doctor. Do you think that our diet could have anything at all or much to do with, perhaps, the production of these cancer cells?

Dr. RHOADS. I can't answer your question precisely. In the experimental animals, certain types of dietary deficiency, notably a compound called choline, will result in cancer of the liver. That in this country is a relatively rare disorder. In South Africa it is very common, and there is some reason to believe that it is associated there with a dietary deficiency. The manufacture of these compounds we call hormones, the sex and other glands of the body, is under the influence of diet to some extent. The precise details are not yet known. I hope they can be found out.

Senator HILL. Down at the Alabama Polytechnic Institute, they have demonstrated just what you say, that so far as a white mouse is concerned, you deny that mouse choline in his or her diet and that mouse will inevitably develop cancer.

Dr. RHOADS. I remembered that you came from Alabama, when I spoke. I can give you other evidence to support this, Senator Hill. There is a chemical not now used in dyeing food called butter yellow, once so used, which will regularly, in the experimental animals, induce cancer if the diet is deficient:

The mechanism by which it does so is related to the mechanism of the work described in Alabama, in a very interesting way.

PANTATHENIC ACID CURE FOR CANCER OF THE BLADDER

Secondly, cancer of the bladder is encountered in certain dyeworks, caused by exposure of the workers to a compound called beta naphthylamine. This cancer of the urinary bladder can be produced in dogs by the same compound. There is evidence coming forward now to indicate that if these dogs have a certain deficiency in the diet of a particular vitamin called pantathenic acid, the cancer occurs earlier and more frequently. There is also suggestive evidence that if panta-

thenic acid is added to the diet, no cancer at all can be produced by this means. So there may well be a close connection.

Now, if these experiments are borne out, it may well be that the big chemical concerns, who have operations which involve exposing men to beta naphthylamine, may well add pantathenic acid routinely to the diet of their workers. And I expect more evidence of this type to come forward.

Senator HILL. Senator Thye, I know you could not be here, but you have just missed one of the most interesting statements I have heard. Dr. Rhoads has completed, but I am going to ask the doctor if he will take just a minute to tell Senator Thye about this machine that has just been invented for the discovery of cancer.

Will you show him your chart, there, Doctor?

Senator THYE. Doctor, I am terribly sorry that I could not get here before this hour, but I had not planned on an afternoon committee session, and I committed myself to some appointments and a telephone call that had to be made. But I am certainly interested.

Senator HILL. Will you just review that portion about the machine? The rest of it, Senator, will be in the record. It has been a most nteresting statement.

CANCER DIAGNOSIS MACHINE

Dr. RHOADS. Senator, one in every 330 women, presumed to be normal, over the age of 30, if properly examined, can be found to have early cancer of the neck of the womb. This is just one example of the progress of cancer research under the institutional coordinated system. The examination involves studying under the microscope the fluids which are secreted by the womb in the vaginal fluid. This fluid contains cells which slide off the lining of the womb. And if cancer is there, the cancer slides off too, and can be found in these fluids.

However, it is by conventional procedures a very difficult, time-consuming, and very troublesome job, because it takes a skilled pathologist who has spent many years in training, 1 month of 5 days a week work to pick up this one positive in the 330 negatives. That has meant that large mass screening of the female population has not been practicable. We have sought under this program, which Federal funds have aided, some mechanical means of substituting delicate instruments for the human eye, and so applying this technique of the study of the vaginal fluid to the female population on a large scale.

A scientific worker has devised a means of so treating the cancer and normal cells in vaginal fluid that the cancer cells light up. And these are cancer cells emitting visible light. These are the normal cells emitting very much less light, as you see. The difference is that between a 25-watt bulb and a 75-watt bulb, and this can be measured by delicate electronic instruments and be converted into signals. You can ring a bell. You can make a siren blow. You can do anything you choose. We hope that this machine will be able to take care of 250 of these smears, as they are called, each day. That will have to be checked by the pathologist, but this may make possible the elimination of negative smears. And it is a type of instrumental development requiring great coordination of many skills, the mechanic, the optical

specialist, the microscopist, and the pathologist, to bring together the data to support our position in working on this type of instrument.

It is an operation which is still crude, and I only hope that my hopes for it will be borne out. It will be a very important thing if so, I think.

Senator THYE. Thank you, Doctor.

Senator HILL. Thank you. You have made a most interesting and, I may say, challenging statement, Doctor. We deeply appreciate your being here.

Dr. Cameron is the next witness.

ENERGY RADIATIONS ON SUBHUMAN PRIMATES

Dr. CAMERON. I am Dr. Charles Cameron, medical and scientific director and a vice president of the American Cancer Society.

I should like to make some brief initial remarks directed toward the need for studies of the effect or effects of certain high energy radiations on certain animals, notably subhuman primates, from which we may infer the effects of these radiations on human beings better than we are able to at the present time.

The radiations that are produced by naturally occurring radioactive substances, such as radium, and by X-ray tubes operating at voltages of about 250,000, have been studied for about 50 years, and a good deal has been learned concerning their biological effects when applied more or less locally to the body; and to a lesser degree, I think the same can be said of the man-made radioactive isotopes, which have been under study for about 15 years, more particularly during the past 5 years, in consequence of their comparative ease of production in quantity, in nuclear reactors.

However, in recent years we have seen the development of new sources of high energy radiations in the form of X-ray machines operating at voltages of a million and upward, in devices such as the betatron, the cyclosynchroton, and indeed the atomic bomb itself. The radiations produced by these devices include X-rays, gamma rays, electrons, neutrons, and beta and alpha particles—having intrinsic quantum energy usually in excess of 1,000,000 volts and often far in excess of that.

Now, these forms of radiation are currently being employed in the treatment of cancer, in industrial radiography, in fundamental biological studies of the chemical structure and metabolism of living organisms, and in the development of atomic powered machines.

RADIATIONS ON CANCER

However, and I think this is not generally recognized, little is known concerning the effects of such rays when the entire human body is exposed to them. So that information in two general categories seems to be needed at the moment.

(1) Can such sources of radiant energy provide improved methods of treating cancer and leukemia, and

(2) What are the effects of such radiations upon those exposed under conditions of war and what countermeasures will be useful,

thereapeutic in the treatment of casualties, and prophylactic in the prevention of such exposures?

Now, the significance of the first category, the effect of these radiations on cancer, is that it affects the fate of perhaps some 20 million persons in the United States who will, under present conditions, die of cancer. But the significance of this second, the effects of exposure to atomic explosion, now affects the entire 150 million of us. The present need is for the use of certain vertebrate animals with biological reactions similar to man in controlled experiments: first, to learn the effects on all systems of the body of exposures varying in intensity, distance, duration, and frequency; second, to establish the most effective form of treating casualties resulting from exposures; and third, to devise protective mechanisms and practices for those endangered by offensive action or by operational exposure.

LABORATORY RESEARCH NEEDED

The data from Nagasaki and Hiroshima are incomplete, as you would expect from the uncontrolled and after-the-fact nature of the studies. The biological investigations of animals exposed under conditions providing a measure of control, as at Bikini, are helpful but far from adequate, due to the necessarily inprecise nature of the exposure and the types of animals used, more importantly. Only suitable animals, such as dogs and monkeys and subhuman primates exposed under conditions of laboratory control, can provide the information which is certainly vital to our defense, and which is long overdue. And I need not point out that the $500,000 requested for this is an utterly unreliable index of the importance of the work which needs to be done.

PROPOSED PROGRAM OF NATIONAL CANCER CONTROL

I would like to now turn from the laboratory and talk about cancer control in the light of what we already know about it. I believe that there is no major medical problem which affects our people which is more susceptible of immediate and substantial relief than cancer is. I think it is possible with adequate funds and with competent personnel in sufficient numbers and with comprehensive programs of education and of service to patients, to synthesize what we already know into a coordinated and strategically planned program of national cancer control, which could save 75,000 lives a year. That is primarily what we are talking about when we discuss the program of grants for special controlled projects, which has been conducted for the past 4 years in the National Cancer Institute, or through grants provided by the National Cancer Institute.

These grants cover a broad spectrum of activities, which are directed, in the main, to improve, refine, and render more effective the known methods of controlling cancer. They can, therefore, be said to be developmental, and they include the general categories of public education, education of doctors, epidemiological and ecological research, and in short to achieve the full potentials of modern diagnosis and treatment.

CANCER DEVELOPMENT IN INDUSTRIAL AREAS

I think I can hasten this along by giving you one or two examples of the kind of studies which have been made possible by this program in the past. Studies, for example, attempting to define the conditions which favor the development of cancer. Incomplete evidence would indicate that certain kinds of cancer in human beings are more or less directly related to certain features of the environment, to which people, perhaps only certain people, are exposed. A number of these environmental influences are identified with industry, and among the specific operations which are suspect are the processing of crude oils and paraffin, the handling of chromates, nickel, and berryllium. Many of the results of experimentation with a large number of new chemical compounds call for scrutiny of the most careful kind, and such studies are now under way, as a result of the appropriations which Congress has made in the past. There have been studies, for example, in Utah, California, Colorado, Ohio, Illinois, and New Jersey, all attempting to identify the hazardous exposures in industry and their elimination.

PROGRAMS REQUIRED FOR CANCER CONTROL

Dr. Rhoads has referred to cytology as an important advance in the diagnosis of cancer. What we need is not 37 laboratories, which is about what we estimate in operation today, competent to do the type of screening he referred to, not 200 technicians which can be entrusted with the preliminary screening of these slides, but we need 500 laboratories, and we need 2,000 technicians at least.

Now, a start has been made towards providing this army of technicians to do the kind of screening required, which is screening that is going to mean a substantial reduction in deaths from certain types of cancer which are susceptible of diagnosis by this method.

These funds have established certain centers where technicians are taught to examine and screen large numbers of smears obtained from the body areas which Dr. Rhoads referred to, notably the uterus, the lung, the intestine, and the prostate. Another kind of study which is undertaken with these funds is the attempt to extend the principle of cytology as a basis for diagnosis to the stomach. We have a study going on at the present time, for example, in the University of California, where, by the proper treatment of gastric secretion and its withdrawal from the stomach it may be possible to identify cells with such accuracy as to provide us with an important step forward.

As to investigations in the field of human genetics, it is still a moot question whether cancer occurs more frequently in certain families than it does in others, particularly certain kinds of cancer. As the result of the support which was extended with funds appropriated by you in previous years, I think some new and very startling information has developed in the field of human genetics, which would indicate that breast cancer may be decidedly more common in certain families.

Now, the support of projects in this general nature represents the application of what is known to effective methodology. The number of worth-while requests which are being received for work of this nature by the Cancer Institute is growing steadily.

AMOUNT REQUESTED FOR CANCER INVESTIGATING COMMITTEE

Finally, I wish to comment on the portion of the budget which requests $200,000 for the establishment of a committee, providing that committee with the resources to conduct proper tests of new, unsupported, unorthodox claims for cancer cures. This is becoming an extremely important project, in view of the increasing interest which cancer is getting generally, and it is our belief that while as of this moment there are only two methods by which cancer can be cured, namely, surgery and the application of radiant energy, there are from time to time numerous claims as to the effectiveness of other types of treatments. Many of these are wholly ineffective, and others are as yet unproved or unaccepted.

It is important to direct attention to this problem, and there is another aspect to it, not merely one of protecting people against charlatans. It is the effort to be sure that no claim for a cancer cure goes uninvestigated. It is just possible that a dark horse will come through with important information. And in order to accomplish this objective of investigating these claims of effective treatments of cancer which are unsupported and unorthodox, the National Research Council, at the request of the National Cancer Institute, the American Medical Association, the American Cancer Society, and the Damon Runyon Fund, has agreed to sponsor such an investigating committee. The committee consists of eminent and nonpartisan physicians and scientists whose work, it is hoped, will go far toward the solution of the problem of cancer nostrums, cancer quackery, and unsupported, unwarranted, treatment methods.

Senator HILL. I note in that connection in your prepared statement you say that "undoubtedly cancer quacks are literally killing many of our people," in connection with what you have just been saying about this committee checking these quacks and nostrums.

Go ahead. I did not mean to break your chain of thought.

PRESENT CANCER CURES

Dr. CAMERON. There is evidence that this program of cancer control can bring very substantial results. For example, it is possible today to cure cancer of the breast in about 80 percent of the women when the disease is limited to the breast. And yet countrywide, we are curing about 35 percent of them. It is possible when tumors of the rectum are about the size of my thumb and limited to the lining of the rectum, to cure about 70 percent of the patients. And yet we are curing about 14 percent countrywide. Cancer of the larynx is curable in 75 or 80 percent of the cases when the disease is confined to one vocal cord. Yet, across the country we are curing perhaps not more than 15 percent of the people who get it. This is the dichotomy which this program of cancer control is attempting to eliminate.

I think probably I will conclude with that, Senator Hill.

Senator HILL. You speak about curing the cancer of the vocal cords. What you mean is that you are able to go in and eliminate enough of the vocal cord to eliminate the cancerous tissue, and the patient can live and carry on more or less of a normal life. Is that right?

Dr. CAMERON. Yes, sir.

Mr. RUNYON. Did you want to ask about this chart?

Senator HILL. Yes; here was a very interesting chart, Senator Thye, showing forecast of cancer deaths. I asked the question with reference to this growth as to how much of it might be said to be attributed to a real increase, or how much might be attributed to the fact that in the old days they did not discover it as readily or as well as they do today.

Dr. CAMERON. I think a measure of the apparent increase is due to that fact. For example, certainly many people are having cancer of the lung diagnosed today, which was being called a number of other things years ago. But I think the substantial amount of the increase is due to the fact that we have a much older population than we have ever had before. Life expectancy for women today is about 69½ years and for men is almost 66 years. We have three times as many people over the age of 45 in this country today as we had in 1900. And because cancer is a disease of middle age and older persons, it stands to reason that the more we eliminate diseases associated with infant mortality and with epidemic disease—pneumonia was called the captain of the men of death when I was in medical school, with a mortality, in lobar pneumonia which was very high. That means we have to die of something, and cancer and heart disease are about all that is left.

Senator HILL. Tuberculosis used to be the No. 1 killer, did it not, 40 or 50 years ago?

Dr. CAMERON. It was.

Senator HILL. And it was largely research that made it possible for us to pull tuberculosis down from the No. 1 killer to a point where it is down near pneumonia now, is it not?

Dr. CAMERON. It is eighth.

Senator HILL. Well, Doctor, we certainly want to thank you for this splendid statement.

Any questions, Senator Thye?

Senator THYE. No; I have none.

(The prepared statement is as follows:)

STATEMENT OF DR. CHARLES S. CAMERON, MEDICAL AND SCIENTIFIC DIRECTOR, AMERICAN CANCER SOCIETY, INC.

GRANTS FOR SPECIAL CONTROL PROJECTS

It is probable that no disease among the major causes of death in our country today is more susceptible of immediate and substantial relief than cancer. It is possible with adequate funds, with competent personnel in sufficient numbers and with comprehensive programs of education and professional service to patients, to synthesize the known or rationally hypothesized data on cancer control into a coordinated strategically planned national cancer control program which could save 70,000 lives each year.

The part of the operation of the National Cancer Institute designated grants for special control projects is a program of grants-in-aid which supports a broad spectrum of activities all of which are direct efforts to improve, refine, and render more effective the known methods of controlling cancer. These activities may therefore be said to be developmental and they include the general categories of public education, professional education, epidemiological and ecological research, and the attempt to achieve the full potentials of modern diagnosis and treatment. The following are illustrations of the kind of activity which this program has made possible during its past four years of operation:

(1) Studies attempting to define the conditions which favor the development of cancer. Incomplete evidence suggests that certain kinds of cancer in humans is more or less directly related to certain features of the environment to which

people—perhaps only certain kinds of people—are exposed. A number of these environmental influences are identified with industry, among which may be mentioned specific operations employed in the processing of crude oils and paraffins, and in the handling of chromates, nickel, and beryllium. Many of the industrial operations resulting from the commercial exploitation of a vast number of new chemical compounds calls for scrutiny of the most careful kind—and such studies are now under way in a number of our States—some six or seven, (Utah, California, Colorado, Ohio, Illinois, New Jersey)—looking toward the elimination of all possible hazardous exposure.

(2) The establishment of training centers where technicians are taught to examine and screen large numbers of smears obtained from a number of body areas (uterus, lung, intestine, prostate) which when properly stained provide an important new method of diagnosing cancer earlier than has been possible heretofor.

(3) The development of a new technique, based on the above principle, for diagnosing cancer of the stomach.

(4) Investigations in the field of human genetics.

(5) Production of motion pictures for physicians illustrating the proper procedures in cancer diagnosis.

The support of projects of this nature represents application of what is known (or strongly suspected) to utile and effective methodology. The number of worth-while requests for support of such projects received by the institute has increased steadily signifying the growing recognition of cancer's importance, but at the same time rendering available funds inadequate.

CANCER CURES EVALUATION

It is our belief that as of this moment, there are only two methods by which cancer can be cured and they are (1) surgery and (2) the application of ionizing radiations in the form of X-rays and radium. There are, on the other hand, numerous claims of the effectiveness of other kinds of treatment, many of which are wholly ineffective, that is known to be ineffective, and some of which remain as yet unproved and unaccepted. The exponents or operators of the more unorthodox of these treatments are frequently loud and eloquent in their promotional tactics. And I need not point out that when a person with cancer puts himself under worthless and ineffective treatment, he loses whatever chances for cure he might have had. Undoubtedly cancer quacks are killing, literally killing many of our people. Their number cannot be ascertained, for a large number of phony treatments are operating quietly if not covertly. It is important, therefore, that more direct attention be given to the problem than has been possible in the past. There is, of course, another aspect to the question of unsupported claims. It is just possible that somewhere, sometime a worthwhile discovery may be made by a "dark horse." We must be careful, then to see to it that no claim which has a vestige of scientific respectability, is ignored.

In order to accomplish these objectives, the NRC, at the request of the country's leading agencies concerned with cancer—the AMA, the NCI, the ACS, and the Damon Runyon Fund—has agreed to sponsor an investigating committee for the purpose of evaluating presumably doubtful or unaccepted cancer treatments. The committee consists of eminent and nonpartisan physicians and scientists whose work, it is hoped will go far toward the solution of the problem of cancer nostrums, cancer quackery, and unsupported unwarranted treatment methods.

HIGH ENERGY STUDIES

Radiations produced by naturally occurring radioactive substances such as radium, and by X-ray tubes operating at voltages up to 250,000 have been studied for 50 years, and much has been learned of their biological effects when applied more or less locally to the living organism. To a lesser degree, the same may be said of the man-made radioactive isotopes which have been under study for 15 years but especially so during the past 5, in consequence of their comparative ease of production in quantity in nuclear reactors.

However, recent years have recorded the development of new sources of high energy radiations in the form of X-ray machines operating in the range of 1,000,000 volts and upward, the betatron, the cyclosynchrotron, and, indeed, the atomic bomb itself. The radiations produced by these devices include X-rays, gamma rays, electrons, neutrons and beta and alpha particles—having intrinsic quantum energy usually in excess of 1,000,000 volts and often far in excess of that.

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These forms of radiation are currently being employed in the treatment of cancer, in industrial radiography, in fundamental biological studies of the chemical structure and metabolism of living organisms, and in the development of atomic-powered machines.

However, little is known concerning the effects of such rays when the entire human body is exposed to them. Information in two general categories is a pressing need at this moment:

(1) Can such sources of radiant energy provide improved methods of treating cancer and leukemia; and

(2) What are the effects of such radiations upon those exposed under conditions of war and what countermeasures will be useful—therapeutic and prophylactic.

Whereas the significance of the first category—the use of high quantum radiation in the treatment of disease, affects the fate of some 22,000,000 persons in the United States who will, under present conditions, die of cancer, the significance of the second—the effects of exposure to atomic explosion—now affects the entire 150,000,000 of us.

The present need is for the use of certain vertebrate animals with biological reactions similar to man, in controlled experiments: First, to learn the effects on all systems of the body of exposures varying in intensity, distance, duration and frequency; second, to establish the most effective form of treating casualties resulting from exposures; and third to devise protective mechanisms and practices for those endangered by offensive action or by operational exposure.

The data from Nagasaki and Hiroshima are quite incomplete as would be expected in view of the uncontrolled and after-the-fact nature of the studies. The biological investigations of animals exposed under conditions providing a measure of control, as at Bikini, are helpful but far from adequate due to the necessarily imprecise nature of the exposure and the types of animals used. Only suitable animals (dogs, monkeys and subhuman primates) exposed under conditions of laboratory control can provide the information vital to our defense, which is long overdue.

The $500,000 requested is an altogether unreliable index of the importance of the work.

RESEARCH FELLOWSHIP PROGRAM

Senator HILL. Dr. Homburger?

Senator THYE. Just before the doctor commences: We have had the first quorum call, which is two bells, and we will probably get another one, because they probably will not get a quorum on the first call. We may have a record vote.

Senator HILL. We may have to call a recess on you people, then.

Dr. HOMBURGER. Mr. Chairman, I am Freddy Homburger, research professor of medicine and director of the cancer research and control unit, Tufts College Medical School.

I have been assigned to the task of talking to you about the approximately one-and-a-half-million-dollar increase that the citizens budget proposes over and beyond the Budget Bureau estimate for research projects, and the increase for research fellowship. In other words, those are the only two items where the citizens budget is really substantially bigger than what you have in the budget proposal.

CANCER CURES FAR FROM FULL EFFECTIVENESS

The reason why I was selected for this is perhaps that the American Cancer Society knows that I deal with one of the most distressing phases of cancer. I am interested in conducting research in patients who are beyond the help of surgery or radiation. And I would like, therefore, to inject a somewhat human note here.

As I am talking here, probably two or three of my patients will die. And while Dr. Cameron has said that we have to die of something, you are all familiar with the situations which this can bring up.

You have lost one of your distinguished colleagues from this disease awhile ago. I have lost one of my best friends, a surgeon, and I am about to lose one of my very good friends, a woman of only 38 years of age, in spite of all this very remarkable progress that has been made.

From that point of view, one begins to wonder what can be done not only to improve with what we have today the results that we can get from surgery radiation, as Dr. Cameron said, but to stop this disease. And it is not any longer believed as hopeless a thought as it was considered to be only a few years ago. You must not forget that we have had substantial support for cancer research, more than a few hundred thousand dollars a year, only since 1946.

Now, what is the best method to accomplish this aim, to eradicate the disease? As you know, it has been done for various infectious diseases. It has been done for pneumonia, smallpox, typhoid, diabetes, pernicious anemia, all diseases that if we cannot eradicate them, we can control them practically 100 percent, and none of us would be afraid of any of them. The thing that has done it is research.

RESEARCH PROGRAM BASIS ESSENTIAL

If you have a good research program, then every year you have new data. You have just seen what Dr. Rhoads presented, and there are many more little advances that are understandable only to the highly skilled technicians in this field that have been taking place. If you therefore have a good research program, then as long as you have not found the solution, your expenditures for that research program should be larger every year, because otherwise you lose the advantages that you can gain from the newly made progress.

You cannot expect for a long time to come that we can drop a number of projects which is equal each year to the new ones that we simply should undertake if we want to get ahead. So personally, I believe that this million and a half that is requested in addition to the Budget Bureau estimate is much too small. I spend in a very small outfit, in a small school, in a new group, $180,000 a year, and we are not the only ones. One million and a half to me seems a very modest estimate.

Senator HILL. What is the main source of your funds for your school?

Dr. HOMBURGER. We are supported by the American Cancer Society, the Damon Runyon Fund, the United States Public Health Service, and a variety of industrial houses, who give us small grants of around $5,000. I would say that at this time the total support we have received in the last 3 years from the Public Health Service probably accounts for the major portion, slightly over half, of our funds.

GOVERNMENT AID FOR RESEARCH PROJECTS

That situation prevails in many schools where there are brains and people that could do cancer research. The school cannot afford it; it; the Government has to help us. Because the private agencies, with all the money they are raising, seem to have reached a certain plateau in their ability to raise money. And yet I am certain that the citizens want this problem solved. That is based on the facts col-

lected in polls in 1946, and it is based on my talks with the families of those who died from this disease. I don't have to go into that.

Now, I think Congress is willing to support this research, and we do not have to press the point too strongly. But what I would like to press strongly is the fact that there will be increasing expenses if this program is found to be good. We will need more research fellows—335 applications are expected by the Public Health Service. These men get about $3,600 a year at the most. I believe that $750,000 for this whole program is not enough. That is my personal opinion. The citizens budget proposes $750,000.

It is certain in the experience of the people at the Cancer Institute that more than one in three of these men who apply are qualified and could do good work in cancer research.

BUDGET REQUEST FOR CANCER RESEARCH

Senator HILL. The citizens budget recommends $500,000, does it not?

Dr. HOMBURGER. $750,000.

Senator HILL. Yes; I see.

Dr. HOMBURGER. So we have here a logical program. It is just like a business planning and development. We have research which will lead to additional information. We need more research; therefore more money to carry it out. We need more personnel to carry it out. And we need, therefore, more fellows. We will find a solution. I believe that that is quite sure. I would not want to make a guess as to how long it will take. And then these expenditures will be very greatly reduced.

Now, you know that the program of the National Cancer Institute, the way in which they administer these research funds, is extremely sound. Some of us who are scientists think it is over conservative. There are several hundred people who go over these grants in study sections before they are given out.

I think the major objections to increased expenditures at this time are probably that we are in a difficult period, that we have a lot of defense expenditures, and that we should save money on nondefense expenditures.

ECONOMIC LOSSES FROM CANCER

Now, I believe that cancer and its eradication is a defense expenditure if there ever was one. More people were killed during World War II by cancer than were killed in action. And the rejection among this young population for neoplasms, that is, cancer and other types of neoplasms, covered enough people to fill two divisions of World War II size. The economic loss by this disease, just counting the productivity—and I am not talking of the families that are ruined, now, and their savings used up, because it is a long and chronic disease—the economic loss is sufficient to equip three airborne divisions. That is $250,000. These are Government figures. Certainly, the country can afford that. It can spend 1 billion dollars in 1 year for television sets. That figure I quote from Dr. Griswold, president of Yale University. And Congress can appropriate, last year, $30 million for foot-and-mouth disease. Now, that is an economic

proposition, but so is the support of cancer research. And I believe if we want to find a solution to this problem, the money has to be spent precisely where the citizens budget points it out, namely, in increased research appropriations and increased fellowship appropriations.

I do not see any place in this budget where one could cut down on other expenditures. So I think we just have to spend that additional money if we want to stop this suffering and this tragedy of cancer, or at least speed our progress toward this end.

Senator HILL. Thank you very much, Doctor. Your statement has certainly been right in line with the others. It has been most informative and helpful, and we deeply appreciate it.

(The material submitted is as follows:)

TESTIMONY OF F. HOMBURGER, M. D., RESEARCH PROFESSOR OF MEDICINE AND DIRECTOR OF THE CANCER RESEARCH AND CANCER CONTROL UNIT OF TUFTS COLLEGE MEDICAL SCHOOL, BOSTON, MASS.

The American Cancer Society has requested that I express my opinion on the appropriations which are to be decided upon by the Congress for the grants-in-aid program, the intramural-research program, and the research-fellowship program, of the National Cancer Institute. They hasve asked me because as a research man and research administrator in one of the medical schools that receive support for their cancer work from the Public Health Service I am not only in constant contact with the problems of cancer research but I can see from personal experience how the organization of the National Cancer Institute operates.

THE PROBLEM

You are, no doubt, well aware of the seriousness of the cancer problem and realize the wickedness of this disease. Everyone of us has lost friends or relatives from this disease that will kill 22,000,000 people now alive if we cannot find new ways to deal with it. No one is immune, as you have certainly cruelly felt when this distinguished body lost one of their leaders from cancer only a short time ago. But just as it takes the mature man from his duties, it will kill the young. Of those 204,651 people who died of cancer in 1949, over half were under 65 years old and over 5,000 were under 25 years of age. The economic losses caused by cancer are staggering—42,108,000 man-work days are lost each year and the loss in productivity is 250,000,000 annually. Almost 2½ times as many people died of cancer during World War II as were killed in action in the Armed Forces.

THE ATTACK ON THE PROBLEM

Two principal attacks are being undertaken against cancer. The methods of treatment are being constantly perfected while an intensive educational campaign is constantly carried forward to bring patients to their doctors at an earlier stage of cancer and to sharpen the consciousness of the physician and to put him on guard against cancer. Alongside this program, research is being intensified throughout the country. The educational programs and technical improvements in our present-day methods of dealing with cancer can only further reduce the toll it takes; research alone stands a chance to stop that toll completely.

This has been shown time and again in the history of medicine. The best of care could never have licked the major infectious diseases such as pneumonia, typhus, typhoid fever, malaria, yellow fever. Only research resulted in those measures which have relegated these major scourges of mankind to the background and made their control possible. Through research, diabetes and pernicious anemia are no longer to be dreaded as merciless killers. Research has tremendous leverage. Every dollar spent in the search for DDT, synthetic rubber, atomic energy has had the effect of many times that much money in changing the lives of all of us, in placing this Nation into the lead it holds today in the world. These things are quite evident. It is less often realized that the same is true of every penny spent in medical research.

WHAT HAS BEEN ACCOMPLISHED SO FAR?

In the 6 years during which there was substantial support, progress has been made that indicates that we are moving in the right direction and that also creates a new need for more research money so that the new leads that have turned up can be developed and applied to the sick patients or to the prevention of the disease. Examples of such leads are the finding that not only one but several hormones have beneficial, though incomplete effects upon certain types of cancer, the observation that certain simple substances can compete with chemicals that are essential for the cancer cell to grow and can thus indirectly starve it, at least temporarily. Great improvements have been made in the cytological diagnosis of many types of cancer including cancer of the urinary and gsatrointestinal tracts and of the lung.

These are only those phases wherein research has advanced to a point at which it becomes of direct benefit to cancer patients. There are many more advances, understandable only to those familiar with the technical aspects of the problem, and calling for more technical development by men with the necessary skills.

WHY IS IT THAT NOT MORE WAS ACCOMPLISHED?

You may say that Congress appropriates lots of money every year for cancer research and that the advances just listed seem to represent a small return. People still die of cancer. The application of modern research methods to cancer date back only a few years, and the use of the American method of getting things done in the fight against cancer only began in 1945. Before then the funds available in this country for cancer research never exceeded a few hundred thousand dollars per year. Last year the grand total spent on cancer research from all sources was about $9,000,000. Compared to the sort of money spent by industry in research this is indeed not a large amount. When du Pont can afford to put $30,000,000 into new research buildings, not speaking of their huge expenditure to operate their research programs, why cannot Congress spend more than it does on medical research? For the eradication of foot-and-mouth disease you have appropriated over $30,000,000 in 1950. Now that we have evidence that cancer research does generate progress against the disease the time has come to sink the funds into it that are essential to accelerate our advances. In the beginning there were not enough research men skilled and interested to tackle this task. Today the Cancer Institute has to refuse a third of the applications submitted to them amounting to nearly one-half of the amounts requested because of lack of funds and two out of three applicants for research fellowships are rejected for lack of funds. I am convinced that the reason why progress has been slow is not only the inherent difficulty of the problem but just as much the reluctance of Congress to appropriate sufficient funds for research.

HOW COULD WE SPEED THE SOLUTION?

The quickest and most economic way to progress toward the solution of the cancer problem is to speed research. This can be done by attracting still more capable men into cancer research. That is the purpose of the research fellowship program. Three hundred and thirty-five applicants are expected for next year. Many more than one in three of these men are qualified. Personally I believe that even the $750,000 requested by the citizens' budget is not enough for this purpose.

Secondly, the research grants-in-aid program has to be strengthened. With the funds at present available it is not even possible to continue all current projects and it should be possible, to follow sound principles of research development, to add new projects that are built upon knowledge previously gained. This progress shows that we need more research fellows to grow up in an atmosphere of research and with a spirit of curiosity, away from the economic problem of how to earn a living at least for a long enough period of time to let them work on some important problem.

The research projects of the National Cancer Institute grant-in-aid program embrace a multitude of facets and all disciplines that bear on the problem of life and growth. This nationwide program has done more than anything else to stimulate the interest of scientists in the cancer problem. If this program is productive it will naturally grow and become more expensive as new approaches develop until the problems of the disease will be solved; then it will decrease in magnitude and these research men will turn to other problems. It is thus not a permanent liability on the books of the Nation. Retrenchment in this area before this problem is solved is dangerous and will impede progress.

The attack made upon the cancer problem by the National Cancer Institute's own scientists is second to none in its intensity and width of approach, and it has been productive of important advances that have been listed in Dr. Rhoads' testimony read into the record of the House hearings on this bill.

HOW CAN ONE JUSTIFY THESE EXPENDITURES UNDER CURRENT WORLD CONDITIONS?

Above all, the people want this cancer problem solved. This is evident from a Gallup Poll published in 1946 wherein 82 percent of the people questioned wished the Government to spend $200,000,000 on cancer even if it meant higher taxes. The wish of the people was expressed in the National Cancer Act and Congress carried out a program of development of new research facilities that has given tremendous impetus to the work in this field, and increased appropriations for the research thus rendered possible are the logical continuation of this program.

Secondly, you have absolute assurance that the moneys entrusted to the National Cancer Institute will be wisely used. Scientists throughout the country who compete for support from the Institute unanimously agree that the grants-in-aid are assigned to various investigators without prejudice of any kind and entirely on merit. Many of us even feel that the staff of the Institute are so competent that they would not necessarily need to rely upon the advice of as many scientists as form their study sections for review of projects, as they do today. The National Advisory Cancer Council is composed of mature citizens and enlightened research men, and the cancer research men at large are happy to rely on their judgment. There is no question then, that these funds, once appropriated by Congress, will be intelligently and fairly spent.

URGENCY OF SITUATION

One might say that this program could be postponed until the drains of funds imposed upon the Nation by the defense program would become less burdensome. This would be a grave mistake for the following reasons:

First: Death does not take a holiday. The human tragedy of cancer will occur without interruption until the goal of research is attained.

Second: In the field of research grants and fellowships any slowing down of the effort not only reduces the scope of the program, but such delay is magnified by the fact that brains are lost to cancer research and entire teams working on grants-in-aid disperse with great loss of effort and waste of money since they often will not be able to wind up their work. Continuance of support at yearly increasing levels is essential and logical for successful research on cancer.

Third: Cancer is a defense problem in more than one way. Of approximately 5,000,000 men between the ages of 18 to 37 rejected for medical reasons during the last war, 32,200 were rejected because of cancer or other neoplasms, a loss of two divisions. The economic loss from cancer incurred by the Nation in 1 year in productivity alone would purchase the equipment for three airborne divisions at about $75,000,000 each. Finally, every research man trained under the fellowship program and every research team working in skilled harmony under a research grant, are potentially available for biological research in connection with the national emergency.

Research has solved the problems of many diseases in my own lifetime. This includes many nutritional diseases such as pellagra, pernicious anemia and other serious killers such as many infectious diseases and diabetes. As one who sees these things from close up every day, I feel justified in stating that we approach this goal for the eradication of cancer steadily. Every dollar appropriated for the programs of fellowships, grants-in-aid and research at the National Cancer institute will speed this progress; every penny cut will slow it up and prolong this dread to every citizen. In a country that can afford a billion dollars for television sets in 1 year and where the Government appropriated $30,478,230 for foot-and-mouth disease in 1950, a request to appropriate $750,000 for fellowships and $6,500,000 for grants-in-aid, and the same amount as last year, namely $3,909,000 for the research program of the National Cancer Institute, seems indeed modest. Even so the Institute would have to reject many worthy new research applications, but certainly it should not be left in a position to have to reject 41 percent of the funds applied for as was the case last year. The people wish this job well done, not at the rate of 50–50.

TRAINING AND MEDICAL SCHOOL GRANTS

Senator HILL. Dr. Robert A. Moore?

Dr. MOORE. Senators, I am Robert Allen Moore, professor of pathology and dean of the Washington University School of Medicine in St. Louis, Mo.

I would like to present, gentlemen, some evidence, briefly, on two line items in the budget of the National Cancer Institute: First, on the teaching of medical subjects, or the medical school grants; and second, the training stipends.

Senator HILL. Excuse me, Doctor. If you depart from the text, here, in summarization, we would be glad to have your prepared statement go in in full.

Dr. MOORE. I was going to depart from it, sir.

Senator HILL. That will be all right, and if you wish, we will have the full text go in, so that we will have the full record.

Dr. MOORE. The appropriation for teaching of medical subjects, or the medical school grants——

Senator HILL. Excuse me for a moment. The same thing, of course, will apply to all of the statements.

You may proceed, Doctor.

AMOUNT FOR MEDICAL SCHOOL GRANTS

Dr. MOORE. The teaching of medical subjects or the medical school grants briefly is an allocation to each of the 4-year medical schools in the United States of $25,000 a year, to each of the 2-year schools, $5,000, and to each dental school $5,000 a year, to improve the teaching of cancer to medical students.

The present appropriation is $2,040,000. We are asking that that be increased to $2,100,000, an increase of $60,000, only to provide an equal amount to each one of the schools, as has been carried out in the past.

AMOUNT FOR TRAINING STIPENDS

On training stipends: These are stipends to young men who are graduated in medicine and have had some training in general medicine or surgery and wish to get more specific experience in the diagnosis and treatment of cancer in recognized institutions throughout the country. At the present time, there is an appropriation of $375,000 for that purpose. We are requesting that this be increased to $500,000, on the basis of the fact that there are many more men who wish that training, and it would be desirable from the standpoint of health care in the country in the future to have that increased number of men secure special training.

Now, in order to illustrate this, very briefly, I would like to tell you about one patient in our institution, a 50-year-old man, who, in January 1950, came to the Barnes Hospital in St. Louis. After careful study, a diagnosis of acute monocytic leukemia was made, a form of disease which is generally recognized as a type of cancer of the blood.

The first point that is pertinent to the discussion today is that there were two National Cancer Institute trainees present with the physician who made that diagnosis, and they therefore learned something about

leukemia, its diagnosis, and they can apply that for the next 30 to 50 years of their lives as physicians.

Inasmuch as our institution is a teaching institution, this patient was taken before the tumor clinic. That tumor clinic is supported in part by the teaching grant. So that all of the medical students got some benefit from the study of this patient, and a part of the study of this patient was made possible because of traineeships and of medical school grants.

Now, if you will recall, this was January 1950. ACTH and cortisone were just coming out.

MEDICAL STUDIES

The third point is that through the program of the Public Health Service, with appropriations from Congress, we have been able to carry on some studies with cortisone and ACTH before that time, and this patient was given the opportunity of receiving that type of treatment. Because we knew something about it in advance from the research which had been carried on with Public Health Service money.

In addition, through other grants from the National Institutes of Health, we carried on research in the institution with penicillin, streptomycin, and other substances, and this patient was given the advantage of such treatment. The patient improved considerably, and whereas it was thought that he had a normal life expectancy of 4 months he actually lived 14 months.

As relates to the appropriations under consideration, the funds made available by the Congress in fiscal years 1950 and 1951, first made possible an extension of useful life of one ill individual. Second, it made possible the training of several young physicians, the diagnosis and treatment of leukemia in particular, and the use of ACTH and other substances. Third, it made possible a broadening of the training of many medical students in this same subject. And, fourth, it made possible further research in the use of these substances in the treatment of leukemia and other diseases.

Now, this is just one example, in one institution. It could be multiplied manyfold in our own institution and in other institutions. The expenditures in the training of men and in research should not be regarded as current expenditures, but rather as capital investments which continue to pay dividends for many years to come. These dividends are in better health and the longer life of the people.

MEDICAL TEACHING AND TRAINING

Now, a word about these two types of grants in particular, the teaching grants and the trainee grants. Medical school teaching grants are now in the fourth year of experience. The Congress has appropriated money for four consecutive years for these teaching grants.

I don't believe that I need justify them in your mind. They have done a great deal of good. I have administered one of them myself, and I have had the privilege of serving on an advisory committee to the Public Health Service on the administration of all of them.

There have been two definite objectives realized from these grants: More adequate training of medical students, and experimentation on the methods and the techniques of medical education, which would not have otherwise been possible.

PENDING BILL FOR MEDICAL EDUCATION SUBSIDY

Perhaps I might say just a word about the idea of Federal subsidy of medical education, because this touches very closely.

Senator HILL. I would be glad to have you do that, Doctor. Senator Thye and I, as Members of the Senate, will, I hope, very shortly be considering Senate 337.

Dr. MOORE. I don't wish to enter into that, Senator.

Senator HILL. I understand, but the principle will be the same.

Dr. MOORE. I think there are some points here that may be of interest to your.

GRANT PROGRAMS

In 1947, when these grants first became available, they were looked upon with some suspicion, and there were not many applicants the first year. During the present year, 1950–51, all of the 4-year medical schools, all but two of the 2-year medical schools, and all but two of the dental schools are availing themselves of this assistance through medical teaching of cancer. Is any better proof needed that the Public Health Service has followed strictly the mandate of the Congress to award these grants without interference in the curricular or other internal affairs of the schools, that almost all of the schools have now accepted and are doing good with these grants without any interference from the Public Health Service? Each school has used the funds in a different way, and I am sure that each one has developed a program that is worth while.

Finally, on the matter of the traineeships, we might perhaps put it this way, that it is no longer true that every physician is fully capable of treating every disease. Specialization has made a major contribution to the high state of health care in this country. And one of the fields in which we need specialization is in the diagnosis and treatment of cancer. The individual should be trained in general fields first, and then receive specialized training. That is what these traineeships give to the physicians of this country.

There are many more applicants, as I have indicated, each year than there are physicians, and that is the basis for requesting an increase from $375,000 to $500,000.

As I said a moment ago, an investment in the training of men is an investment not for this year but in the health care for the next 30 or 40 years. Because of this program, if each of the 100 trainees now provided for were able to save one additional person from cancer per year during his lifetime—and that is not an impossible assumption—it would mean three to four thousand individuals would live out their life span without premature death from cancer. I believe you will agree with me that this is a cheap investment, of $125 to $166, for each one of these people saved by this appropriation for trainees to improve the treatment of cancer. Thank you very much.

Senator HILL. Doctor, we had a very interesting witness this morning. He is a businessman from New York. He was testifying on the matter of funds for mental hygiene. And he intrigued me in captioning his statement, "False Economy." We hear so much today about economy, and we all want wise and sound economy, but I think you convince us further that there is certainly a very definite disease, we might call it, of false economy. Is that right?

Dr. MOORE. I would agree with that, yes.

Senator HILL. Senator Thye, any questions?

Senator THYE. No, I have not. It was a very fine statement; an excellent statement.

Senator HILL. And we appreciate your coming all the way from St. Louis to give us this statement.

(The prepared statement is as follows:)

STATEMENT OF DR. ROBERT A. MOORE

I am Dr. Robert Allan Moore. I am the professor of pathology and dean of the Washington University School of Medicine in St. Louis, Mo. I have for many years been interested in the field of cancer and appreciate the opportunity to appear before you in support of the Federal appropriations for this most important activity.

Medical science and medical care have made great strides in the last few decades. A significant part of the credit for these strides may be attributed to the program of the United States Public Health Service which has been authorized and supported by the Congress.

In order to conserve your time and to focus attention on each of the line items in the fiscal 1952 budget of the National Cancer Institute, I have been asked to discuss the items of medical school teaching grants and of traineeships.

Justification of a part of a whole is not easy and I ask your forbearance for a moment to sketch the broader outlines of the whole. In order to do this, I would like to take a moment to tell you of one patient in our medical center, and how the various facets of the total program fit into modern health care.

A man, about 50 years old, came to our medical center in St. Louis in January 1950. After a careful study it was determined that he was suffering from acute monocytic leukemia, a form of cancer of the blood.

The first point of interest to you is that two National Cancer Institute trainees, working under the supervision of this man's physician, took an active part in establishing this diagnosis. Thus, they learned things which they can apply for the next 30 years in their own practice.

Inasmuch as our institution is a teaching hospital, a group of medical students assigned to the tumor clinic, supported in part by the medical school teaching grant from the National Cancer Institute, were brought together and the diagnosis and treatment of this patient were discussed. Again, and the second point of interest to you, is that a group of future physicians were given instructions which they may use for 30 or 40 years. At his conference two other National Cancer Institute trainees were present as well.

Now, if you will remember the time, January 1950, ACTH and cortisone were on the horizon. There had been some preliminary reports that they were useful in leukemia.

The third point of interest to you is that the United States Public Health Service had for several years given research grants to this man's physician for special studies of leukemia. Thus our staff were prepared to start research on the value of ACTH and cortisone on leukemia because of the general atmosphere of research which had been created and supported by the National Cancer Institute.

In leukemia there are huge numbers of cells in the blood but these are not normal, and hence cannot adequately function to defend the body against bacteria. Therefore, in leukemia it may be desirable to use the newer antibiotics, such as penicillin, streptomycin, and aueromycin to assist in preventing and curing infections which may occur from time to time and would otherwise be serious. This is my fourth point, that the United States Public Health Service has supported in our school and in other schools and hospitals studies which have shown how to use these modern drugs more effectively.

This patient was thus started on treatment with ACTH and antibiotics. There was great improvement and he returned to work. During the entire course of treatment the trainees and the medical students were kept informed of or participated in the treatment.

In November 1950, the National Institute of Health awarded a grant to our school from the funds appropriated for fiscal 1951 for more intensive studies of ACTH and cortisone. Hence, my fifth point, that still another facet of the program of the United States Public Health Service entered the picture.

Before 1950 the average duration of life with acute monocytic leukemia was 4 months. The patient I have described has now lived many more months. I hasten to add that ACTH is not a cure of this disease, but in some patients there is a significant extension of life after use of it.

In summary of my original premise that the various programs of the United States Public Health Service and the National Cancer Institute are intertwined, funds appropriated by the Congress for fiscal 1950 and fiscal 1951 in this one instance have: First, made possible an extension of useful life of an ill individual; second, made possible the training of several young physicians in diagnosis and treatment of leukemia in general and of ACTH in particular; third, made possible a broadening of the training of many medical students in this same subject; fourth, made possible further research in the use of ACTH and cortisone in treatment.

I could duplicate this one example a hundred or a thousandfold in our own institution in 1 year in the one field of cancer and there are considerably over a hundred institutions in the United States which could duplicate our experience. And, the manner in which the funds are used, that is education and research, means that the whole process is extended into future years. Expenditures in the training of men and in research should not be regarded as current expenditures; but rather as a capital investment which continues to pay dividends for many years; dividends in better health care and in a longer productive useful life of the people of the world. There is no fundamental difference between investment in industry and business which pays dividends in production and in money and investment in men and research which pays dividends in a better life. During the past 10 years the Congress has appropriated huge sums—billions—for the building of industrial plants to expand our production. I do not question this action; it was and is still necessary to preserve our way of life. But, I wonder if we have given equal relative attention to the building of men and the building of the future through research. And, on this point, I wish to emphasize that I am not arguing the case of medicine alone; I am thinking of all biologic sciences, the social sciences, and the humanities.

Finally, just a few words about the two topics assigned to me—medical-school teaching grants and the traineeships. Again I shall speak about these activities as they relate to cancer, but everything I shall say applies equally well to heart, mental health, and many other fields of medicine.

The medical-school teaching grants by the National Cancer Institute are now in the fourth year. I assume that I need not justify their existence, but rather that you wish to know what has been accomplished and what may be accomplished in future years. I can give you positive information on these points, first, because I have administered one of the grants, and, second, because it has been my privilege as a member of the advisory committee to the Division of Cancer Control of the National Cancer Institute to read and study the reports on each grant over the full 4-year period.

In my opinion, there have been and will continue to be two really significant gains from these grants: first, the more adequate training of medical students in the diagnosis and treatment of cancer; and second, experimentation in the methods and techniques of vertical education in contrast with horizontal education.

On the score of improvement of the education of medical students, I wish to interpose first a few thoughts on Federal subsidy of medical education. In 1947, when these grants first became available, they were looked upon with some suspicion and there were few applicants. During the present year, all the 4-year schools, all but two of the 2-year schools, and all but two of the dental schools are availing themselves of this assistance. Is any better proof needed that the Public Health Service has followed strictly the mandate of the Congress to award these grants without interference in the curricular and other internal affairs of each school?

Each school has used the funds in a different way, but all, I can assure you, have developed a worth-while program in relation to the local situation. Most schools have added one or more staff members to coordinate and correlate the teaching.

My point of vertical versus horizontal education deserves a word of explanation. There are two general approaches to the compartmentalization of medicine. One involves the study of anatomy, chemistry, surgery, psychiatry, and other subjects of this type. The other approaches the entirety of medicine through a study of cancer, heart disease, the infectious diseases, the metabolic diseases, and the like. The former is called horizontal education and the latter vertical education.

Medical education has developed almost exclusively along the horizontal pattern.

Many believed that we should do something to explore the vertical, but it was and is quite impossible for the schools to support both. If I were to select the one most important contribution in the "long pull" from the teaching grants, I would select this aspect. It has been possible for schools to explore thoroughly and experiment with vertical education. As we go on, the good which has and will come from these small grants of $5,000 to $25,000 to each school will flower in a general improvement of medical education. On this basis, I urge you to continue the appropriation for this program.

The program of traineeships, the other topic assigned to me, is also educational, but in a little different category. With the medical student, we are attempting to give him a thorough basic grounding in all aspects of cancer which every physician should know. With the trainee, we are giving highly specialized training especially in treatment.

It is no longer true that every physician is fully capable of treating every disease. Specialization has made a major contribution to the high state of health care in our country, and cancer is no exception. But specialization has also brought financial difficulties to those who wish to be specialists. The future physician who wishes to specialize in cancer, first, must spend 3 or 4 years in college, 4 years in medical school, and 3 to 4 years of specialized training in surgery, or medicine, or radiology, and then finally is ready for his specialized training in cancer. He needs help at this stage.

Every year there are more applicants for these traineeships than there are positions available from the funds which the Congress has appropriated. That is why we suggest that the item be increased from $375,000 to $500,000. My justification for this is what I have said before: Investment in the training of men is an investment not for this year but in the health care for the next 30 to 40 years. If, because of this training, each trainee of these 100 trainees were to be able to save one additional person with cancer per year—not an impossible assumption—it would mean 3,000 to 4,000 individuals would live out their life span. This, gentlemen, is the cheapest investment we could secure, $125 to $166 per person thus given a better life; no more than many of us spend on cigarettes each year.

As a final word, let me assure you that I appreciate the many demands on our Government for funds. As one who pays an income tax, I expect to have the total sharply focused in another 10 days. On the other hand, I do not believe that many taxpayers would question appropriations which are wisely made and are investments in the future of our country. I place appropriations for health, and especially for education and research in the health field, in this category. Appropriations for health are an investment in a better life just as appropriations for defense are an investment in our way of life. Both are necessary for the future.

CANCER CONTROL

Senator HILL. Now, Dr. Aud, we shall be pleased to hear from you.

Dr. AUD. I am Dr. Guy Aud, president of the American Cancer Society.

I have submitted my written plea to you.

Senator HILL. Excuse me 1 minute, Doctor. We will put your statement in in full. Senator Thye and I are expecting any minute that that long bell may ring and we may have to go over and answer a roll call. If you could finish it before we do have to go to vote, that would save your time.

Dr. AUD. I can make it just as short as you want it.

Senator HILL. No; we want your help, and your entire statement will be in the record. But you go ahead.

Dr. AUD. Suppose I do this: I have before me a field notice of the United States Public Health Service, issued through the National Cancer Institute, setting forth the various activities for which this grant-in-aid to States may be spent. I think perhaps it might be of some informational importance to you to know just what good effect is coming from these grants that you people were far-sighted enough to grant to the States, because, in the first place, this is the only

contact that your appropriations have face to face with the unfortunate individual who has cancer. In other words, it gets right down to the grass roots and actually does something for the sufferer from this disease.

STATE ACTION

In the first place, as you know, there has to be set up in every health department in the United States a bureau of cancer control. Four years ago, approximately 20 of the States were using this money for cancer control. Now every State in the United States is getting some of these grants-in-aid and using them most profitably.

Senator HILL. In other words, every State now has its bureau of cancer control?

Dr. AUD. Every State is getting money for cancer control and is using it most profitably.

Of course, in setting up these bureaus, you realize that setting them up in every State and Territory is going to require a considerable amount of money. In the first place, you have to have an all-around director. You have to have the necessary director, and you have to have the social-service workers, and so on. You have to have the equipment, and you have to have the necessary supplies. It is an expensive thing to do.

But, once these bureaus are set up in these States, they are capable of doing a tremendous amount of good for the people who have cancer and for those who might have cancer. And we must understand that we are all possible cancer victims, because cancer has no respect for persons.

CANCER STATISTICS

In the first place, I might say something of the statistical services that are set up under these various bureaus. As you understand, we must have correct statistics in order to study cancer properly, and there must be a division of statistics set up in each one of these departments for the collection of statistics on cancer in that particular State.

There must be follow-up services. Cancer is a very peculiar disease. If one has typhoid fever or pneumonia or some other disease, when he once recovers from it, it isn't necessary to follow that up, because that one attack of typhoid fever, or whatever it was, will not be repeated. When he once recovers from it, he is through with it. That isn't true of cancer, necessarily. Every case of cancer should be watched for a number of years. Therefore, there must be a follow-up system for taking care of these people who have had treatment for cancer in order to make sure that, should they be so unfortunate as to have a recurrence of their cancer, they may receive treatment in time to do them the maximum amount of good.

I don't know how it is in your State, but we have a good many mountainous areas in our State, and the people out of the mountainous areas don't appreciate what it means to have these things followed up.

They go back into the mountains after we have treated them, and we have to go up into the mountains and dig them out, literally, and bring them back for periodic examinations. Now, it takes money to go up and dig these people out and bring them back at regular intervals in order to have them examined and see if it is necessary for them to have any further treatment.

As far as that is concerned, we have to go up there and find them in the first place. They do not come out of the mountains to have their diagnoses made. We have to go up there and get them, make our diagnoses, bring them out of the mountains, give them the treatment they need, and they then go back into the mountains; and we must watch them from there on, because they may have a recurrence of their cancer. All of that is expensive. It takes a big organization to follow that up and do it properly.

ENVIRONMENTAL-CANCER SURVEYS

Environmental-cancer surveys are very important. Occupational and environmental cancer must be carefully considered. All of those things connected with occupation and environment have a great bearing on the incidence of cancer. We have to make studies of these causes. They are all done through the departments of health. Investigators have to go into the factories, and they have to find out the various substances that are irritating that are producing cancer. And many of the people working in chemical plants are developing cancer. It is necessary to find out if there is some substance in a particular plant that might be irritating either to the skin or to the lungs and which might produce cancer, silicosis, tuberculosis, or some other disease. Silicosis may also have some influence on cancer of the lung. I can't speak too much about that.

As to training of the individuals, for instance, we have to have public-health personnel. We have to have nurses. They are highly specialized. There must be training of nurses and individuals to take care of these cancer cases. They are difficult cases and cannot be cared for as you do ordinary ones. The result is that they have to have highly specialized training. That is part of the program. That is where part of this money goes—on how to recognize early cancer and going up into the mountains and finding these patients. We haven't the doctors to send up there to find these cases of cancer in many instances. Many of them are found by the district nurses. Then the patients are sent to the doctors for diagnosis. The first contact many of them make is with one of our nurses in the Public Health Service. It is a very, very valuable service.

Senator HILL. You want to find these cancer cases just like we have done so much to find tuberculosis cases.

Dr. AUD. Exactly. We are going through what tuberculosis has been through.

We have to train individuals outside of the Public Health Service for the treatment of these cancer cases.

INFORMATIONAL SERVICES

Informational services: We believe, of course, that research is the prime object. But, just the same, it is very important that we put over to the people our program of professional and lay education. We have to teach the people to be cancer-conscious. I think we are doing a splendid job of teaching the people to be cancer-conscious. And, of course, we have no way of measuring the tremendous good this has done, but every doctor will tell you that he is seeing more and more cases of cancer early. That is when we want them, because that is when we can cure them.

Senator HILL. Doctor, excuse me, there. What you are saying, I know, can be done and has been done, because in the State of Alabama we have a county—Covington County—and they send out, largely under the inspiration of the State cancer society, which is, of course, part of the American Cancer Society, to have everybody come in and find out whether they have cancer. It was astounding, Senator Thye, to see how many people they examined. It was also surprising, of course, how many of them had cancer.

Dr. AUD. Mr. Runyon will show you those statistics.

Senator HILL. Mr. Runyon has brought to my attention the 1950 Annual Report of the American Cancer Society, which contains a picture of my good friend Mr. Ed Reed, of Covington County, Ala. He was the man who inspired and provided the leadership of that great campaign there in Covington County to find out who had cancer and to take steps in an effort to cure them. He did a wonderful job.

Dr. AUD. A great deal of that work is being done, and it has been most profitable.

We, of course—I say "We," meaning the American Cancer Society and the United States Public Health Service, because they work very closely together—the United States Public Health Service, through the National Cancer Institute, of course, is promoting this program through your aid to the States.

There is a program not only of lay education—that is, teaching the people to recognize cancer or, rather, some of the symptoms of cancer, so that they will know that it is important that they have a proper examination to see whether or not they have cancer—they also have a very important program of professional education. Unfortunately, some of the doctors perhaps may not be as alert to the early recognition of cancer as they might be, and they may not appreciate all of the newer things that have come out regarding the treatment of cancer. So, it becomes the duty of those who can do this and direct the program of educating the doctors as well as the lay people, educating them in the diagnosis of cancer early and in the newer methods of treating cancer. It is a very, very large program.

CANCER FILMS

The production of informational material: I want to say right here that one film—they have put out others, but just one film, "Breast Self-Examination," put out by the National Cancer Institute in cooperation with the American Cancer Society, I think, has been judged the most valuable medical film that has ever been issued. There is no question but what thousands upon thousands of women are coming after self-examination, and that by finding tumors in their breasts, earlier diagnosis is possible. And thousands of lives are going to be saved. It is estimated that perhaps 30,000 lives may be saved through that early examination of the breast by these women themselves. And that certainly is something worth while.

CANCER SERVICES

Cancer services, such as, histopathological services, are important. Many physicians out in the rural areas have no methods by which they can have a specimen examined. The health departments are setting up laboratories and are sending the material out to these doc-

tors, where they might take these specimens, put it in a bottle of a preservative solution, mail it to the laboratory, whereupon the laboratory within the next day or so, as soon as these things can be run through notifies the doctor whether or not that particular specimen is or is not cancer. They are also providing cytological services, by which the study of single cells—I presume you have heard of the wonderful work that has been done by Dr. Paponicolan, in which individual cells are examined. In this way cancer can be picked up in many instances when practically a hundred percent of them are curable. Because you are not then waiting until the cancer has invaded a lot of tissue, or where it has gone into other parts of the body, through metastasis, but you get the cancer when it is absolutely local, and when it is confined to a very small area. That is particularly true in women who have cancer of the cervix. It is also being used to great advantage in diagnosing cancer in other places, such as cancer of the bladder, urinary tract, and lungs. These cells may be sucked out of the lungs and examined.

Cancer can be examined in many instances through this method whereas it may not be examined until weeks and maybe months later by some other method. So we are getting them at a stage when practically a hundred percent, particularly of the cancers of the cervix, may be saved.

REPORTING OF CANCERS AND TUMORS

Some men go so far as to say that this is the greatest advance in early diagnosis of cancer that has ever been made. It certainly is an extremely valuable one.

There has been the maintenance of tumor registers. This is extremely important. Every case of cancer should be reported to a central office, including the type of cancer, the location of the cancer, the age of the individual and a brief history of the case. In that way you can see the tremendous amount of information that may be gathered such as: the various kinds, the various locations of the body, the various ages, sexes, and so on. It is an extremely important study.

CLINICAL SERVICES

Clinical services, operational and financial support of diagnostic and cancer clinics: There are in the United States at the present time 580 cancer clinics that are approved by the American College of Surgeons. That is one cancer clinic to every 259,000 people. It is certainly not adequate. You could not expect one cancer clinic to take care of 259,000 people. It simply is impossible. It has been estimated that we should have at least one cancer diagnostic clinic for 100,000 people, and then in that way we might render a service that would be worth while.

FINANCIAL SUPPORT FOR HOSPITALIZATION

Financial support for hospitalization not exceeding 3 days: That is an extremely important thing. You realize, I am quite sure, that there are certain cancers, that cannot be readily diagnosed. They must have elaborate equipment, and they must have specialists, and well-trained men, in order to diagnose these cancers that may be

located where they are inaccessible, or there may be rare types of cancer. They must be admitted to the hospital. And this appropriation allows 3 days in the hospital for the diagnosing of these very unusual cases of cancer.

AMOUNT REQUESTED

I am going to stop here. I would like to say this. There isn't a single item that I have mentioned to you that would not take up your entire appropriation of $3 million, out of 24 items here, if it were used properly. I don't see how we can possibly ask for less than $500,000 more. So the citizens committee is asking that this item be increased to $3,500,000. Three days in the hospital for these extensive examinations for all the people in the United States that need it? Why, your $3 million would be gone before you turn around. And none of your other services would be available, because you would have no money for them.

Thank you.

Senator HILL. Thank you, Doctor. I certainly appreciate this statement. I have said, and I repeat, that Senator Thye and I both want to express our deep appreciation to each one of you for coming here and giving us this very fine, helpful testimony.

We are grateful to you.

(The prepared statement is as follows:)

STATEMENT IN SUPPORT OF FEDERAL GRANTS TO STATES FOR DETECTION, DIAGNOSIS, AND OTHER CONTROL SERVICES ADMINISTERED BY THE NATIONAL CANCER INSTITUTE

The program of Federal assistance to States for the purpose of developing and extending and improving local cancer control efforts is now in its fourth year. Whereas in 1945, not more than 20 of our State governments were actively engaged in programs of cancer control as such. Today all of our States have such programs and I have no hesitancy in attributing this tremendous quantitative increase in anti-cancer activity within a period of 5 years to the farsightedness of the Congress in providing Federal grants to the States and thereby stimulating the States' own recognition and assumption of their responsibilities. It is possible, as I have suggested, to approximate the quantitative increase in our country's fight against cancer in some such general terms as the greater amount of money being spent now as compared to 5 years ago, or the greater number of States now participating formally in such programs; and yet it is my strong feeling that such standards are utterly inadequate measures of the dividends now being derived from this activity, for this is the one phase of the entire Federal effort to stay the rising tide of cancer which is face to face with our people—those with cancer and those who are potential cancer patients (and that means all of us)—saving lives face to face, without the interposition of official bureaus and proper channels, of chains of command or authority. This is the part of the program which is now at work face to face with sick people, without waiting for new facts to be discovered, without further belaboring theory and hypothesis. In a word, this is that part of the Government's program for controlling cancer which is saving lives and relieving misery at the only point where, after all, lives can be saved and misery can be relieved—at the grass roots.

There are three aspects of this program of Federal grants to States for cancer control which appear to me to be especially worthy of comment. First, these funds are not dispersed willy-nilly, and the allocation to each State is neither the result of whim nor opinion, but is the result of a meticulous study of the State's needs in respect of (a) its population, (b) its financial position, and (c) the extent of its cancer problem.

Second, funds are not granted automatically. Specifically each State requesting its grant must provide a plan for a program of cancer control, or, to express it

another way, must show satisfactory evidence of worth-while intentions. This stipulation has had the desired effect of stimulating and encouraging States to give thoughtful consideration to a health problem which, in spite of the fact that it is our second cause of death, has not been regarded as within the domain of public health activity.

Third, evidence of good intentions must be supported by willingness on the part of the applicant State to provide one-third of the cost of the program contemplated; that is, the State must provide $1 for each $2 of Federal support requested. This device is education in its most effective form: through it our States are being led out of the attitude of indifference, apathy and hopelessness in respect of cancer into one of enthusiasm, confidence, and action.

I should like to conclude this statement with a brief recapitulation of the activities which this part of the Government's control program has made possible and is at this moment supporting. No program of cancer control, or of anything else, can be effective without a thorough understanding of the extent of the problem concerned; and the establishment of cancer registries for the collection and analysis of the statistical data pertaining to cancer's incidence and mortality is generally regarded as the sine qua non of effective control efforts. These funds are now permitting well-organized statistical studies to be carried out on a scale not possible before. Apart from the collection of data having to do with cancer's occurrence and with cancer as a cause of death is the related subject of the conditions under which cancer occurs, or, as it is usually referred to, environmental cancer. Already there are reasonably well established external or immediate causes of certain kinds of cancer—causes related to occupation, to climatic influences, to geologic factors, to religious practices, to social customs, it is possible that more intensive and serious study of such factors might shorten by many years the task of laboratory research which appears to lie ahead. There are further, curious, and I believe extremely significant, differences in the rate of occurrence of certain kinds of cancer among certain groups or classes of people, which differences are as yet not explained. I refer, for example, to the relatively lower rate of cancer of the stomach in our Southern States as compared with the the North. There may be valid and ready explanations of such differences, but very often there is no explanation. Yet there are reasons, and these reasons may be clues to the whole problem. These funds are now supporting studies of this kind.

Cancer control funds are providing for an accelerated program of public education—a job undertaken heretofore by the American Cancer Society alone, yet one so large as to demand official support. Cancer education is life-saving information; in no other disease does the patient share so largely in the responsibility for early recognition and diagnosis. "Forewarned is forearmed" is pertinent to a unique degree in cancer, and the control funds you have previously appropriated are helping to forewarn our people as they deserve to be warned.

Cancer control funds are increasing the number of cancer clinics in our country. There are at present some 580 such clinics approved by the American College of Surgeons, or one for every 259,000 Americans. We are told that one clinic for each 100,000 persons is necessary for adequate cancer diagnosis and treatment: that means over two-and-one-half times as many as there are at present. Your appropriation is helping to correct this inadequate service.

Early diagnosis is, I believe, the crucial factor in our contemporary fight to bring this disease under control. The opportunity for early diagnosis must be brought within the reach of all our people if the public welfare is to be served intelligently. The diagnosis of cancer is often difficult and expensive due to the highly technical methods and costly apparatus so frequently required. Yet control grant funds are helping to make early diagnosis available to all through the provision of tissue diagnosis, through support of services for examining smears by the cytologic technique of Papanicolaou, and through financial assistance of individuals requiring limited hospitalization for diagnostic purposes.

These are but a few of the features of the program which is being carried on State by State through the Federal control grants; your time will not permit a more complete discussion. But I feel that enough has been presented to justify my statement that this is the segment of the entire Federal cancer effort which is most directly concerned with saving lives. And having established that, it becomes quite unnecessary to bring forth any additional support for my recommendation that this portion of the budget be increased in the amount of $300,000 for the next year—and that the allocation to the State grants program be $3,500,000.

SUGGESTED ACTIVITIES FOR WHICH PUBLIC HEALTH SERVICE GRANTS MAY BE EXPENDED BY STATE AND LOCAL HEALTH AGENCIES

(ISSUED BY CANCER CONTROL BRANCH, NATIONAL CANCER INSTITUTE, DECEMBER 7, 1948)

1. Administration:
   - (a) Direct cost of the cancer control program, including administrative and generalized services to the extent that such services support the control program.
   - (b) Necessary supplies, equipment, and other expenses incident to the cancer control program.
   - (c) Salaries, fees and travel of personnel exclusively administering the program of providing direct services to individuals under the program.
2. Statistical services:
   - (a) Epidemiologic statistical studies.
   - (b) Collection and analysis of morbidity and mortality reports in central statistical unit.
   - (c) Follow up services and studies.
3. Surveys:
   - (a) Environmental cancer surveys.
   - (b) Case finding surveys.
4. Training:
   - (a) Training of public health personnel associated with cancer control programs in health departments.
   - (b) Training of individuals outside health agencies who, as a result of their training, will render service to the cancer program.
5. Informational services:
   - (a) Lay informational activities for adults and school children.
   - (b) Production of informational materials of all types.
   - (c) Direction of informational programs for professional groups (physicians, dentists, nurses, pharmacists, etc.).
6. Cancer services:
   - (a) Histopathology services:
     - (1) Provision of tissue diagnostic services.
     - (2) Provision of cytologic tests for cancer.
     - (3) Maintenance of tumor registry.
   - (b) Clinical services:
     - (1) Operation or financial support of diagnostic and cancer clinics.
     - (2) Provision for diagnostic services on a fee basis.
     - (3) Financial support for hospitalization, not exceeding 3 days for diagnostic purposes.
     - (4) Operation and financial support of fixed or mobile cancer detection centers.
7. Other significant cancer services:
   - (a) Provision of medical social service.
   - (b) Provision of bedside nursing care.
   - (c) Development or maintenance of case finding devices.

Senator HILL. Mr. Teeter, did you want to make a brief statement?

STATEMENT OF JOHN H. TEETER, ADMINISTRATOR, DAMON RUNYON MEMORIAL FUND FOR CANCER RESEARCH, INC., NEW YORK, N. Y.

PREPARED STATEMENT

Mr. TEETER. I would if I may, Senator. I know the pressure of time, and so if I may, I should like to enter these statements in the record.

Senator HILL. All right.

(The statements referred to are as follows:)

TESTIMONY OF WALTER WINCHELL, TREASURER OF THE DAMON RUNYON MEMORIAL FUND FOR CANCER RESEARCH, INC., PRESENTED BY JOHN H. TEETER, ADMINISTRATOR OF THE FUND

Mr. Chairman, my name is John H. Teeter. I am the administrator of the Damon Runyon Memorial Fund for Cancer Research, Inc., located at the Hotel Astor, Broadway and Forty-fourth Street, New York City. I am appearing on behalf of Mr. Walter Winchell, treasurer of the fund, who is in Florida at this time and cannot appear personally.

The Damon Runyon Memorial Fund is a nonprofit, tax-exempt, membership corporation, incorporated in the State of New York on February 18, 1947. Its officers are: Mr. Dan Parker, president, sports writer, Daily Mirror; Mr. Leonard Lyons, vice president, columnist, New York Post; Mr. Walter Winchell, treasurer, columnist, Daily Mirror, and radio commentator; Mr. Leo Lindy, secretary, owner, Lindy's Restaurant.

The Damon Runyon Memorial Fund devotes its entire resources to research in the field of cancer. It does not maintain or support any clinical facilities. All moneys collected are paid out in the year received to institutions enjoying manpower and facilities to conduct cancer research. There are no deductions of any kind from the contributor's dollar.

Allocations are made by the committee for fellowships, grants-in-aid, and institutional grants for salaries, equipment, and expendable supplies to support research in the field of cancer. No grants are made for construction.

To date the fund has allocated $4,206,424 in 168 grants to 130 institutions in 45 States, the District of Columbia, and 11 foreign countries.

The fund does not conduct a Nation-wide campaign at a given time, but depends on voluntary contributions and special events.

The fund recognizes the help and assistance of the American Cancer Society whose annual April campaign is a national landmark. While the two organizations are separate, their research programs are coordinated. The fund's research program is also coordinated with the other agencies in the field of cancer research.

Mr. Chairman, I would like at this time to offer for the record the auditor's statement of income and a detailed account of the allocations made for cancer research (exhibits A and B).

May I call your attention to the determined effort of the Damon Runyon Memorial Fund to make cancer research allocations to every State in the Union and to every foreign research center of promise. To date $4,827,922.73 has been collected from Mr. and Mrs. America in the 48 States and $4,206,424 has been allocated in 168 grants to 130 institutions in 45 States, the District of Columbia, and 11 foreign countries.

Only three States are not represented in the Damon Runyon Memorial Fund program—New Hampshire, Montana, and Mississippi. These great States are being urged to submit programs and grants await them when a suitable program has been submitted.

Grants have been made to 11 foreign countries. Russia would be included if she could be induced to drop the iron curtain in the field of cancer research for the good of mankind.

In seeking the cause and control of cancer, the Damon Runyon Memorial Fund recognizes the need for a Nation-wide effort. In this atomic age concentration of research manpower is unwise. The fund recognizes the need for great research centers such as the Sloan-Kettering Institute, but it also recognizes the need to develop other centers like it in other areas of the Nation such as are now being developed in Houston, San Antonio, Oklahoma City, and Seattle.

While the importance of a central unit in Bethesda, such as created by the National Cancer Institute, is fully recognized, it is urged that the committee examine the expansion of research at this center at the expense of the Nation-wide program. Research centers in the 48 States should be encouraged and scientists should not be concentrated in Washington. You gentlemen who represent the 48 States should encourage expansion of the research programs in these States and be ever conscious of empire building at Bethesda at the expense of your State programs. It is suggested that a study be made of the percentage trend of research centralization in Bethesda versus research expansion, including construction, in the 48 States.

No reflection on the excellent organization at Bethesda is intended. It is merely the recognition that research must go where scientific capacity exists. This scientific capacity should not be centered in Washington within the administrative machinery of government.

Mr. Chairman, for the past several years the Damon Runyon Memorial Fund has advocated the creation of suitable means of evaluating so-called cancer cures which cost the innocent taxpaying cancer victims many millions of dollars each year. After much delay the agency was finally created and financed by $10,000 of Government money and $15,000 from private agencies. Only one meeting has been held to date and the only official duty performed by the agency is to answer routine correspondence. No serious case of so-called cancer cure has been evaluated to date and new ones continue to mislead a hopeful public daily. We should have action or the monetary support should be withdrawn.

Gentlemen, in conclusion may I urge you on behalf of the Damon Runyon Memorial Fund to recognize the declining purchasing power of the dollar and grant at least a 15 percent increase in research categories in the 48 States just to maintain the existing research program at its current levels.

I am aware of the increasing cost of government, but also conscious of the cost of chronic disease. May I suggest that you look into the contribution, if any, that the insurance companies make to cancer research in comparison with their death claims due to cancer. Death claims due to cancer for 1951, based on the figures for the first 2 months of the year, are estimated at $675,000,000, or approximately $2,000,000 per day.

I thank you for the opportunity of being heard.

Damon Runyon Memorial Fund for Cancer Research, Inc.—Geographical summary, cancer research program

	Senior fellowships	Fellowships	Grants-in-aid	Institutional grants	State total
States:					
Alabama			$10,687	$10,000	$20,687.00
Arizona				6,000	6,000.00
Arkansas				10,000	10,000.00
California		$25,069.00		312,850	337,919.00
Colorado			2,500	25,000	27,500.00
Connecticut		4,250.00		50,000	54,250.00
Delaware				4,800	4,800.00
District of Columbia		3,500.00		80,000	83,500.00
Florida				135,000	135,000.00
Georgia		3,156.00		10,000	13,156.00
Idaho				20,000	20,000.00
Illinois	$12,000	9,245.00		210,000	231,245.00
Indiana				45,000	45,000.00
Iowa				7,600	7,600.00
Kansas		10,750.00		29,000	39,750.00
Kentucky				12,000	12,000.00
Louisiana			5,000	15,000	20,000.00
Maine				50,000	50,000.00
Maryland		4,161.70	1,597	111,000	116,758.70
Massachusetts	47,500	95,851.03		168,000	311,351.03
Michigan				32,000	32,000.00
Minnesota	6,000	25,000.00		54,000	85,000.00
Missouri		11,500.00	8,000	38,640	58,140.00
Nebraska				20,000	20,000.00
Nevada				5,000	5,000.00
New Jersey			1,000	35,000	36,000.00
New Mexico				9,600	9,600.00
New York State:					
Buffalo		7,002.00		12,960	19,962.00
Cooperstown		4,250.00			4,250.00
Rochester				20,000	20,000.00
Saranac Lake				10,000	10,000.00
New York City	122,000	134,911.04		1,438,200	1,695,111.04
Brooklyn		4,500.00		20,000	24,500.00
North Carolina	12,000	23,750.00	10,000		45,750.00
North Dakota				5,000	5,000.00
Ohio				35,000	35,000.00
Oklahoma				30,000	30,000.00
Oregon				40,000	40,000.00
Pennsylvania	15,000	41,032.00	12,030	50,200	118,262.00
Rhode Island				20,000	20,000.00
South Carolina				5,000	5,000.00
South Dakota				2,500	2,500.00
Tennessee			8,660	3,000	11,660.00
Texas		4,250.00		86,000	90,250.00
Utah		8,500.00	1,700	10,000	20,200.00
Vermont			5,400		5,400.00
Virginia		4,000.00			4,000.00
Washington		7,000.00		42,000	49,000.00
West Virginia				7,500	7,500.00
Wisconsin			4,500	10,000	14,500.00
Wyoming				2,500	2,500.00
Total, United States	214,500	431,677.77	71,074	3,355,350	4,072,601.77
Belgium				10,000	10,000.00
Canada		7,545.00			7,545.00
England	5,500			10,000	15,500.00
France				10,000	10,000.00
Ireland				10,000	10,000.00
Israel				35,000	35,000.00
Italy				10,000	10,000.00
Mexico				5,000	5,000.00
Norway				10,000	10,000.00
Scotland				10,000	10,000.00
Sweden		6,250.00			6,250.00
Total foreign countries	5,500	13,795.00		110,000	129,295.00
Total United States	214,500	431,677.77	71,074	3,355,350	4,072,601.77
Balance pending allocation		4,527.23			4,527.23
Grand total	220,000	450,000.00	71,074	3,465,350	4,206,424.00

To date $4,206,424 has been paid out in 172 grants and 147 fellowships in 130 institutions in 45 States, the District of Columbia, and 11 foreign countries.

DAMON RUNYON MEMORIAL CANCER FUND

Senator HILL. You are representing Mr. Walter Winchell and the Damon Runyon Memorial Research fund for Cancer Research?

Mr. TEETER. That is right. And I might say, Senator, that I think you are familiar with the work being done in the State of Alabama, both at the Baptist Hospital and at the Tuskegee Institute.

Senator HILL. The George Washington Carver Foundation, yes.

Mr. TEETER. We are very happy at the expenditure of capital in this matter. That is what this is, speculating on the future. We have some good teams. I think the Senator from Minnesota will recognize that in his State we have a very substantial investment also.

You gentlemen have recognized me, I think, from other capacities in which I have appeared before you in the past.

GRANTS FOR RESEARCH

The Runyon Fund is the second largest independent fund in the field other than the Cancer Society, and all the funds are devoted to cancer research. We have 168 grants in 130 institutions in 45 of the 48 States and 11 foreign countries, and we are after those 3 remaining States, because we think this must be developed in every area of the country.

Senator HILL. Let me ask this question, if it is perfectly in order.

AMOUNT OF FUND

How much money has the Runyon Fund raised now?

Mr. TEETER. $4,830,000.

Senator HILL. And that has been in what period of time?

Mr. TEETER. Since December 10, 1946, in the Damon Runyon Fund. It is raised not by any drive, but by spontaneous events, contributions, voluntary in nature.

Senator HILL. You say "no drive"? I have read Mr. Winchell.

Mr. TEETER. I would like to say that the Damon Runyon Fund has regarded itself as the independent venture enterprise in this field. We think there should be one agency in a field that is out venturing by itself; although in its research work, and that is all it does, it maintains liaison with the other agencies.

Senator HILL. It coordinates right with the other agencies?

Mr. TEETER. Oh, yes, sir.

Senator HILL. The work is all coordinated, then.

Mr. TEETER. All coordinated. But it does take a venture point of view, that it will be willing to get projects started in areas where the other agencies are still resurveying the program.

I would like to just bring up one more point here, because I think it would be wrong, Senator, if we all went down the same alley in the discussion here. It might look as though it was planned. This part of it is not planned.

ALLOCATION OF GOVERNMENT RESEARCH GRANTS

But I think it is essential that in developing the research program in the United States, the amount of money that you put in a central area, such as Bethesda, versus what you put in your 48 States, should be carefully watched. In other words, we find here about an equal distribution of the red on this chart and the red cross-hatched. The red means the money spent in Bethesda for research, and the cross-hatched means that which is spent in the 48 States.

Now, there is a general unwritten rule, I believe, within the National Cancer Institute, that not more than 10 percent of any allocation you make should be made at a given institution in the 48 States. If that is true, that is perhaps a good rule as to concentration. But if it is, it should also be applied in central areas, in Washington.

For instance, in the atomic age I think it is a very serious danger to concentrate your scientific effort in a single location. Now, perhaps 10 percent is just a little to sharp, to say it is just for Washington, because after all, this is a center; but great care should be taken that this piece of red is not so large in comparison to this one which has to be sliced 48 ways. I would just like to bring that up and mention it in connection with the 10 percent rough allocation rule, particularly in this, the atomic age.

EVALUATION OF CANCER CURE PROPOSALS

Then another point I should mention is that Dr. Cameron brought out a very important matter, and that is the evaluation of cancer cures. And we have discussed that in the past, for the last two or three appropriation years.

Two years ago it was decided to do something about it. Last year some money was set aside, a total of about $25,000 for this purpose, of which $10,000 was Government money. To the best of my knowledge, that has not resulted in more than one single meeting and some secretarial work. That is not enough to take care of this program, because perhaps it does not press down on the institute as much as it does on the Winchell or Runyon Fund, but we get all the letters that say "Why don't you try my cure?"

We are in a very poor position as long as we have not faced that problem. When the man in Dallas, Tex., or in Detroit, or wherever he may be with his so-called cure, makes a statement, "You have not tried my remedy," then we are in an exceedingly weak position.

I think just to protect the innocent people who now spend more in going to those types of remedies than we actually spend in the research program, which is $8 million a year, the cheapest investment we can make is to meet that issue and meet it head on and not fear it any longer. I would like to point that out.

One other thing I think you gentlemen here in Congress should examine and that is that which I read just a minute ago and put into the record: the amount of money which the insurance companies of the United States, the life insurance companies, pay on cancer deaths and paid last year and what they have paid this year so far.

Senator HILL. You say that you did put that in the record?

Mr. TEETER. Yes, sir. Brought forward to this year, that amounts to $675 million paid on cancer deaths, or $2 million a day. The very interesting part of that is the life insurance companies of the United States put such a small fraction of their assets into cancer research that you cannot measure it by any known percentage. It is less than $125,000 total, yet we are making this possible for them to pay dividends longer, to live longer.

Yet, here is an organization, a group of companies, which I think has a very serious responsibility and is not doing their share.

I thank you, sir.

Senator HILL. Thank you very much.

Are there any questions?

Senator THYE. No, sir.

Senator HILL. Dr. Heller is here from the United States Public Health Service.

You testified the other day, Doctor, and gave us some very fine informative testimony. Would you like to make any comment before we recess?

Dr. HELLER. I have no comment, except to indicate gratification of the backing and evidence of cooperation that the American Cancer Society officials and other prominent men of medicine have made this afternoon.

Senator HILL. It is nice to have had you gentlemen here.

Are there any further questions?

If not, the committee will stand in recess until 10 o'clock in the morning.

(Whereupon, at 3:50 p. m., Thursday, May 10, 1951, the hearing was recessed until 10 a. m. Friday, May 11, 1951.)